



FROM SHADOWS and SYMBOLS to the TRUTH

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**Civilizations
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Ancient Near East**

Civilizations of the Ancient Near East

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VOLUME III

CHARLES SCRIBNER'S SONS
MACMILLAN LIBRARY REFERENCE USA
SIMON & SCHUSTER MACMILLAN
NEW YORK

SIMON & SCHUSTER AND PRENTICE HALL INTERNATIONAL
LONDON MEXICO CITY NEW DELHI SINGAPORE SYDNEY TORONTO

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Charles Scribner's Sons

An Imprint of Simon & Schuster Macmillan
866 Third Avenue
New York, NY 10022

LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA

Civilizations of the ancient Near East / Jack M. Sasson, editor in chief.

p. cm.

Includes bibliographical references and index.

ISBN 0-684-19279-9 (set)—ISBN 0-684-19720-0 (vol. 1)—ISBN 0-684-19721-9 (vol. 2)—ISBN 0-684-19722-7 (vol. 3)—ISBN 0-684-19723-5 (vol. 4)

1. Middle East—Civilization—To 622. I. Sasson, Jack M. 95-1712

DS57.C55 1995

CIP

939'.4—dc20

1 3 5 7 9 11 13 15 17 19 V/C 20 18 16 14 12 10 8 4 2

PRINTED IN THE UNITED STATES OF AMERICA

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials. ANSI Z3948-1984.

Contents

VOLUME III

PART 6 ECONOMY AND TRADE

The Economy of Ancient Egypt	<i>Edward Bleiberg</i>	1,373
The Economy of Ancient Western Asia	<i>Norman Yoffee</i>	1,387
Overland Trade Routes in Ancient Western Asia	<i>Michael C. Astour</i>	1,401
Sea and River Craft in the Ancient Near East	<i>George F. Bass</i>	1,421
Island Cultures: Crete, Thera, Cyprus, Rhodes, and Sardinia	<i>A. Bernard Knapp</i>	1,433
Distant Shores: Ancient Near Eastern Trade with South Asia and Northeast Africa	<i>Daniel T. Potts</i>	1,451
Messengers and Ambassadors in Ancient Western Asia	<i>Gary H. Oller</i>	1,465
Private Commerce and Banking in Achaemenid Babylon	<i>Francis Joannes</i>	1,475
Methods of Exchange and Coinage in Ancient Western Asia	<i>Daniel C. Snell</i>	1,487

PART 7 TECHNOLOGY AND ARTISTIC PRODUCTION

Mining and Metalwork in Ancient Western Asia	<i>James D. Muhly</i>	1,501
The Fortification of Cities in the Ancient Near East	<i>Amihai Mazar</i>	1,523
Material, Technology, and Techniques in Artistic Production	<i>Ann C. Gunter</i>	1,539
Potters and Pottery in the Ancient Near East	<i>Frederick R. Matson</i>	1,553
Textile Arts in Ancient Western Asia	<i>Carol Bier</i>	1,567

Contents

Cylinder Seals and Scarabs in the Ancient Near East	1,589
<i>Holly Pittman</i>	
Jewelry and Personal Arts in Ancient Egypt <i>James F. Romano</i>	1,605
Furniture in Ancient Egypt <i>Peter Der Manuelian</i>	1,623
Jewelry and Personal Arts in Ancient Western Asia	
<i>Zainab Bahrani</i>	1,635
Furniture in Ancient Western Asia <i>Elizabeth Simpson</i>	1,647
Jewelry and Personal Arts in Anatolia <i>Jeanny Vorys Canby</i>	1,673

PART 8 RELIGION AND SCIENCE

Ethics and Piety in the Ancient Near East <i>Giorgio Buccellati</i>	1,685
Myth and Mythmaking in Ancient Egypt <i>Jacobus van Dijk</i>	1,697
Ancient Egyptian Religious Iconography <i>Erik Hornung</i>	1,711
Theology, Priests, and Worship in Ancient Egypt	
<i>Herman te Velde</i>	1,731
The Hymn to Aten: Akhenaten Worships the Sole God	
<i>John L. Foster</i>	1,751
Death and the Afterlife in Ancient Egyptian Thought	
<i>Leonard H. Lesko</i>	1,763
Witchcraft, Magic, and Divination in Ancient Egypt	
<i>J. F. Borghouts</i>	1,775
Medicine, Surgery, and Public Health in Ancient Egypt	
<i>Kent Weeks</i>	1,787
Mathematics, Astronomy, and Calendars in Pharaonic Egypt	
<i>Gay Robins</i>	1,799
Progress, Science, and the Use of Knowledge in Ancient Mesopotamia <i>Jean-Jacques Glassner</i>	1,815
Myth and Mythmaking in Sumer and Akkad <i>W. G. Lambert</i>	1,825
Ancient Mesopotamian Religious Iconography <i>Anthony Green</i>	1,837
Theologies, Priests, and Worship in Ancient Mesopotamia	
<i>F. A. M. Wiggermann</i>	1,857
Lamentations and Prayers in Sumer and Akkad <i>William W. Hallo</i>	1,871
Death and the Afterlife in Ancient Mesopotamian Thought	
<i>JoAnn Scurlock</i>	1,883
Witchcraft, Magic, and Divination in Ancient Mesopotamia	
<i>Walter Farber</i>	1,895
Medicine, Surgery, and Public Health in Ancient Mesopotamia	
<i>Robert D. Biggs</i>	1,911
Astronomy and Calendars in Ancient Mesopotamia	
<i>Francesca Rochberg</i>	1,925
Metrology and Mathematics in Ancient Mesopotamia	
<i>Marvin Powell</i>	1,941

Contents

Theology and Worship in Elam and Achaemenid Iran	
<i>Heidemarie Koch</i>	1,959
From Hittite Mythology: The Kumarbi Cycle	<i>René Lebrun</i> 1,971
Theology, Priests, and Worship in Hittite Anatolia	
<i>Gregory McMahon</i>	1,981
Hittite Prayers	<i>Johan de Roos</i> 1,997
Hittite Witchcraft, Magic, and Divination	<i>Gabriella Frantz-Szabo</i> 2,007
Death and the Afterlife in Hittite Thought	<i>Volkert Haas</i> 2,021
Myth and Mythmaking in Canaan and Ancient Israel	<i>Mark Smith</i> 2,031
Theology, Priests, and Worship in Canaan and Ancient Israel	
<i>Karel van der Toorn</i>	2,043
Death and the Afterlife in Canaanite and Hebrew Thought	
<i>Paolo Xella</i>	2,059
Witchcraft, Magic, and Divination in Canaan and Ancient Israel	
<i>Jean-Michel de Tarragon</i>	2,071
Prophecy and Apocalypics in the Ancient Near East	
<i>James VanderKam</i>	2,083

Contents

VOLUME I

<i>Timeline of Ancient Near Eastern Civilizations</i>	<i>vi</i>
<i>Cultural Table of Contents</i>	<i>viii</i>
<i>Notes on Adopted Conventions</i>	<i>xxi</i>
<i>Introduction</i>	<i>xxv</i>

PART 1 THE ANCIENT NEAR EAST IN WESTERN THOUGHT

Egypt in Ancient Greek and Roman Thought	3
Egypt in European Thought	15
Ancient Near Eastern Myths in Classical Greek Religious Thought	33
The Influence of Ancient Mesopotamia on Hellenistic Judaism	43
Ancient Mesopotamia in Classical Greek and Hellenistic Thought	55
Babylon in European Thought	67
The Decipherment of Ancient Near Eastern Scripts	81
The "Babel/Bible" Controversy and Its Aftermath	95
The Ancient Near East in Modern Thought	107

PART 2 THE ENVIRONMENT

Environmental Change in the Near East and Human Impact on the Land	123
The Flora and Fauna of the Ancient Near East	153
The Agricultural Cycle, Farming, and Water Management in the Ancient Near East	175
Vegetables in the Ancient Near Eastern Diet	191
Animal Husbandry and Human Diet in the Ancient Near East	203

PART 3 POPULATION

Ethnic Diversity in Ancient Egypt	225
The Development of Cities in Ancient Mesopotamia	235
Pastoral Nomadism in Ancient Western Asia	249
Ethnic Diversity and Population Movement in Anatolia	259

PART 4 SOCIAL INSTITUTIONS

Royal Ideology and State Administration in Pharaonic Egypt	273
Military Organization in Pharaonic Egypt	289
Palaces and Temples of Ancient Egypt	303
The Social and Economic Organization of Ancient Egyptian Temples	319

Artisans and Artists in Pharaonic Egypt	331
Legal and Social Institutions of Pharaonic Egypt	345
Private Life in Ancient Egypt	363
Costume in New Kingdom Egypt	383
Royal Ideology and State Administration in Sumer and Akkad	395
Ancient Mesopotamian Military Organization	413
Palaces and Temples in Ancient Mesopotamia	423
The Social and Economic Organization of Ancient Mesopotamian Temples	443
Artisans and Artists in Ancient Western Asia	455
Legal and Social Institutions of Ancient Mesopotamia	469
Private Life in Ancient Mesopotamia	485
Clothing and Grooming in Ancient Western Asia	503
Social and Legal Institutions in Achaemenid Iran	517
Royal Ideology and State Administration in Hittite Anatolia	529
Hittite Military Organization	545
Legal and Social Institutions of Hittite Anatolia	555
Private Life Among the Hittites	571
Administration of the State in Canaan and Ancient Israel	587
Palaces and Temples in Canaan and Ancient Israel	605
Legal and Social Institutions in Canaan and Ancient Israel	615
Private Life in Ancient Israel	633

VOLUME II

PART 5 HISTORY AND CULTURE

Chronology: Issues and Problems	651
Egypt in the Prehistory of Northeast Africa	665
Unification and Urbanization of Ancient Egypt	679
The History of Ancient Egypt: An Overview	691
Builders of the Pyramids	719
The Middle Kingdom in Egypt	735
Akhetaten: A Portrait in Art of an Ancient Egyptian Capital	749
Pharaoh Ramesses II and His Times	763
The Kingdom and Civilization of Kush in Northeast Africa	775
Ancient Western Asia Before the Age of Empires	791
The History of Ancient Mesopotamia: An Overview	807
Kings of Akkad: Sargon and Naram-Sin	831

Contents

Shulgi of Ur: King of a Neo-Sumerian Empire	843	Less-Understood Languages of Ancient Western Asia	2,161
Kanesh: An Assyrian Colony in Anatolia	859	Memory and Literacy in Ancient Western Asia	2,181
Shamshi-Adad and Sons: The Rise and Fall of an Upper Mesopotamian Empire	873	Archives and Libraries in the Ancient Near East	2,197
Mari: A Portrait in Art of a Mesopotamian City-State	885	The Scribes of Ancient Egypt	2,211
King Hammurabi of Babylon	901	Ancient Egyptian Literature: An Overview	2,223
The Kassites of Ancient Mesopotamia: Origins, Politics, and Culture	917	Ancient Egyptian Autobiographies	2,243
Nuzi: Portrait of an Ancient Mesopotamian Provincial Town	931	Tales of Magic and Wonder from Ancient Egypt	2,255
Esarhaddon, King of Assyria	949	The Scribes and Scholars of Ancient Mesopotamia	2,265
Assyrian Rule of Conquered Territory in Ancient Western Asia	959	Sumerian Literature: An Overview	2,279
King Nabonidus and the Neo-Babylonian Empire	969	Akkadian Literature: An Overview	2,293
Art and Archaeology of Western Iran in Prehistory	981	Ancient Mesopotamian Lexicography	2,305
The History of Elam and Achaemenid Persia: An Overview	1,001	Epic Tales from Ancient Sumer: Enmerkar, Lugalbanda, and Other Cunning Heroes	2,315
Susa and Susiana in Second-Millennium Iran	1,023	The Gilgamesh Epic: A Masterpiece from Ancient Mesopotamia	2,327
Darius I and the Persian Empire	1,035	Flood Narratives of Ancient Western Asia	2,337
Central Asia and the Caucasus in the Bronze Age	1,051	The Deeds of Ancient Mesopotamian Kings	2,353
Archaeology and Artifacts in Iron Age Central Asia	1,067	Hittite and Hurrian Literatures: An Overview	2,367
The History of Anatolia and of the Hittite Empire: An Overview	1,085	The Story of the Semitic Alphabet	2,379
Khattushili III, King of the Hittites	1,107	The Literatures of Canaan, Ancient Israel, and Phoenicia: An Overview	2,399
Troy: Legend and Reality	1,121	The Amarna Letters from Canaan	2,411
The Kingdom of Urartu in Eastern Anatolia	1,135	Autobiographies in Ancient Western Asia	2,421
Midas of Gordion and the Anatolian Kingdom of Phrygia	1,147	The Historiography of the Ancient Near East	2,433
The Lycian Kingdom in Southwest Anatolia	1,161	The Contemplative Life in the Ancient Near East	2,445
Croesus of Sardis and the Lydian Kingdom of Anatolia	1,173	Humor and Wit in the Ancient Near East	2,459
Soldiers to Pharaoh: The Carians of Southwest Anatolia	1,185	Love Lyrics from the Ancient Near East	2,471
The History of Ancient Syria and Palestine: An Overview	1,195	PART 10 VISUAL AND PERFORMING ARTS	
Ebla: A Third-Millennium City-State in Ancient Syria	1,219	Art and Ideology in Ancient Western Asia	2,487
Amorite Tribes and Nations of Second-Millennium Western Asia	1,231	Proportions in Ancient Near Eastern Art	2,507
The Kingdom of Mitanni in Second-Millennium Upper Mesopotamia	1,243	Erotic Art in the Ancient Near East	2,521
Ugarit: A Second-Millennium Kingdom on the Mediterranean Coast	1,255	Ancient Egyptian Reliefs, Statuary, and Monumental Paintings	2,533
The “Sea Peoples” and the Philistines of Ancient Palestine	1,267	Music and Dance in Pharaonic Egypt	2,555
Aramaean Tribes and Nations of First-Millennium Western Asia	1,281	Aesthetics in Ancient Mesopotamian Art	2,569
Karkamish and Karatepe: Neo-Hittite City-States in North Syria	1,295	Reliefs, Statuary, and Monumental Paintings in Ancient Mesopotamia	2,583
Ahab of Israel and Jehoshaphat of Judah: The Syro-Palestinean Corridor in the Ninth Century	1,309	Music and Dance in Ancient Western Asia	2,601
The Phoenicians	1,321	Art and Archaeology of the Achaemenid Empire	2,615
Archaeology and Artifacts of the Arabian Peninsula	1,335	Anatolian Architectural Decorations, Statuary, and Stelae	2,639
North Arabia in the First Millennium BCE	1,355	Music, Dance, and Processions in Hittite Anatolia	2,661
		Art and Architecture in Canaan and Ancient Israel	2,671
		PART 11 RETROSPECTIVE ESSAYS	
		Understanding Ancient Near Eastern Art: A Personal Account	2,695
		Assessing the Past Through Anthropological Archaeology	2,715
		Excavating the Land Between the Two Rivers	2,729
		Searching for Sumer and Akkad	2,743
		Rediscovering Egypt of the Pharaohs	2,753
		Resurrecting the Hittites	2,765
		Recovering Canaan and Ancient Israel	2,779
		Contributors	2,791
		Illustration Acknowledgments	
		Index	

VOLUME IV

PART 9 LANGUAGE, WRITING, AND LITERATURE

Record Keeping Before Writing	2,097
The Sumerian Language	2,107
Semitic Languages	2,117
Ancient Egyptian and Other Afroasiatic Languages	2,135
Indo-European Languages of Anatolia	2,151

6

Economy and Trade

The Economy of Ancient Egypt

EDWARD BLEIBERG

INTRODUCTION

Egypt's Natural Resources

The Nile Valley and surrounding deserts (shown on the overview map in Volume 2) were rich in agricultural land, stone, and gold deposits. The land yielded ample food supplies, especially the varieties of grain (emmer wheat and barley) from which the Egyptians made bread and beer. The flax harvest was woven into linen, establishing Egypt's ancient reputation for textile production. Limestone, sandstone, granite, and quartzite were available for building the tombs and temples and for carving the statues and stelae that were integral to Egyptian culture. In the Eastern Desert and in Egypt's Nubian possessions, gold was relatively plentiful.

From the earliest periods, the Egyptians sought abroad the raw materials their country lacked. Coniferous woods were an early import, especially pine and cedar from Lebanon. Ebony was brought from sub-Saharan Africa. Lapis lazuli was imported from Afghanistan, most likely through Mesopotamian intermediaries. Incense from Punt was much prized for religious ceremonies. Copper, essential for making bronze, and various oils were brought from Anatolia, Cyprus, and the Aegean. Finished products such as weapons were also imported from both Syria and the Aegean.

Throughout the period of pharaonic civilization, the need for products from abroad led to government-organized long-distance trading expeditions. The need to allocate natural resources as well as these imports among the population was the major concern of Egyptian economic life, and for this purpose the Egyptians devised a complex system of redistribution.

The Sources

The Egyptians left behind a variety of documents that disclose their economic culture, assumptions, and practices. Though they never expounded theoretically on the nature of the economy, records of economic transactions among individuals, between the king and individual Egyptians, and between the king and foreign princes are available to modern scholars for study. These records are the basis for our understanding of ancient Egypt's economy.

The evidence can be divided into two principal groups: administrative documents from the palace, the temple, or individuals, and monumental inscriptions that are not in themselves economic but provide economic information. The administrative documents can be subdivided into records kept by institutions or those held by individuals. Both groups of documents attest to actual economic transactions. They are preserved on papyrus rolls or on ce-

Imports and Exports

It is not possible to give an accurate picture of imports and exports by time period. Almost all the textual evidence comes from the New Kingdom, and it is very unlikely that this evidence represents all imports and exports. For example, empty jars were found in the Levant with cartouches of the First Dynasty king Den. Yet it is not possible to say what was in the jars. Surely the Egyptians were not exporting jars. The areas from which imports originated are included. All of the exports listed come from the *Report of Wenamun*; these can be no more than a sample of what Egypt exported.

IMPORTS

- Wood:
 - Pine (Lebanon)
 - Cedar (Lebanon)
 - Ebony (sub-Saharan Africa)
- Semi-precious stone:
 - Lapis lazuli (Afghanistan via Mesopotamia)

- Incense (Somalia [Punt])
- Weapons (Syria)
- Metal
 - Copper (via Cyprus)
 - Gold (Sudan [Nubia])
 - Tin (Iran, via Syria)
 - Silver (Anatolia, via Syria?)
- Wine (Syria)
- Slaves (prisoners of war, Syria-Palestine and Nubia)

EXPORTS

- Textiles
- Papyrus
- Gold vessels
- Silver vessels
- Ox hides
- Rope
- Lentils
- Dried fish

ramic or stone ostraca. Papyrus was most often used by institutions to keep records that document the administration and disposition of goods by subordinate members of a bureaucracy. The best known of such documents kept at central institutions are from the Fifth Dynasty mortuary temple of Neferirkare Kakai at Abusir (Papyrus Abusir) and from the Thirteenth Dynasty Theban residence of Sobekhotep II (Papyrus Boulaq 18). In general, ostraca were private records of transactions between individuals. Some ostraca were rough copies, but others had equal force of law with papyrus records. Ostraca are best known from the late New Kingdom workmen's village at Dayr al-Madina.

The second principal group of documents is preserved in both images and texts on the walls of tombs and temples. Most of this evidence comes from the New Kingdom, but some significant scenes and inscriptions from Old and Middle Kingdom tombs broaden chronologically our picture of the Egyptian economy.

These two kinds of evidence present different problems in interpretation. The administra-

tive records are often fragmentary, written in difficult handwriting, and filled with technical terms whose precise meaning cannot easily be established. The public records presuppose economic practices which are so deeply embedded in the culture that scholars cannot readily interpret their significance.

In addition, the detail in these records has to some extent misled scholars into believing that more is known than is really the case. One of the great problems in the study of Egyptian economics derives from the nature of the administrative sources; they are extremely detailed records that reflect very short periods of time in different sorts of contexts distributed over more than two millennia. The Abusir papyri preserve a brief daily record of an Old Kingdom mortuary institution's economic practice. Papyrus Boulaq records twenty-three days of economic activities at King Sobekhotep II's residence at Thebes during the Middle Kingdom. The ostraca from Dayr al-Madina are records of separate barter transactions during the late New Kingdom among individuals.

The evidence throws isolated rays of light on

widely separated contexts and historical periods. Therefore a truly diachronic history of the Egyptian economy cannot be written. It seems unlikely that mortuary evidence from the Fifth Dynasty could be applicable to the Nineteenth Dynasty. By the same token, the internal provisioning of the palace, so clearly attested for the Thirteenth Dynasty, might or might not have been similar in other periods. The barter at New Kingdom Dayr al-Madina might have been prevalent in an Old Kingdom village fifteen hundred years previous to preserved examples or might have been as foreign to Old Kingdom Egyptians as it is to modern people.

Models

Egyptologists have always recognized the difficulties of generalizing from examples isolated in time and context to construct a history of Egypt that would be valid for the entire pharaonic period. A partial solution to this problem is to construct a model of the economy that might aid in filling the gaps in the evidence within each period or from one period to the next. Following the scholarship of J. J. Janssen, the founder of a theoretical economic history for ancient Egypt, most scholars have tried to build on the models of pre-market economies devised by Karl Polanyi. Polanyi's hypothesis that prices set by supply and demand in the market are a historical anomaly, native only to Europe and North America as a result of the Industrial Revolution, led him to devise alternative models for examining the allocation of goods and services in nonmarket economies. Redistribution is the name Polanyi gave to the allocation system practiced by the ancient Egyptians.

In a redistributive economic organization, all goods are collected by a central authority and channeled to others on the basis of social status or kinship. Such a system depends heavily on a strong central government on the one hand and a firm trust in that government's ability to deliver goods and services back to producers on the other. Redistribution demands personal relationships that are reinforced by mutual responsibility and trust. Peasants and craftsmen produce, offer up their production to the cen-

tral authority, and depend in turn on that center for support. If that trust is violated, the entire system collapses.

Such a system is obviously embedded in the culture as a whole. It depends for its success on a firmly believed political ideology and on a social structure that is widely accepted. It is reinforced by ritual, perhaps to the point where ritual considerations outweigh economic consequences. The psychological basis of such a system thus differed radically from modern assumptions about trade, buying, selling, and profit. Motivation for trade, for example, did not parallel the modern merchant's desire to turn a profit. This will be clear in the following discussion of trade.

Polanyi's model has been widely accepted by Egyptologists, but it also has been criticized by economic historians such as Douglas C. North. Though North concedes that redistribution exists in both the ancient and modern economy and is dependent on political, social, and religious elements of a culture, he is concerned that the model does not reflect the changes that must have occurred over long periods of time. Scholars who use the redistribution model, he believes, may sometimes force the evidence to fit the model at each period of Egyptian history and thereby fail to reflect the complexity of ancient reality.

This predicament cannot be resolved easily, for Polanyi's model fits some periods of Egyptian history better than others. The New Kingdom, to which it was first applied by scholars as an analytical tool, shows the model to its best advantage. It also appears to be useful for explaining the two other great periods of strong central government, the Old and Middle Kingdoms, when kings seem to have worked toward establishing and maintaining a system that looked very much like the redistributive model. During the intermediate periods, the same centrifugal forces that decentralized politics and religion operated in the economy. During the Late Period, the economy of the eastern Mediterranean changed so radically after the invention of coinage by the Lydians that the Egyptian economy was never reestablished in the old form. Though Polanyi's model has been useful, scholars should not forget that the redistributive model is a modern construct that was

unknown to the Egyptians. New evidence might necessitate modifications in the model. For now it appears to be the best approach for explicating the ancient Egyptian economy.

TRADE AND THE EGYPTIAN ECONOMY

Assumptions About the Economy

A culture with a redistributive economy operates with different assumptions from those of modern cultures because certain elements of modern life are lacking. The primary components of a modern capitalist economy absent in ancient Egypt were money, the profit motive, and the price-making market.

The lack of coinage and true money during classical pharaonic civilization represents a fundamental difference from modern economies. Though the Egyptians used copper, bronze, and silver as units of exchange and standards of value, they never developed the concept of money to store and transport wealth. When Nectanebo I (380–363 BCE) struck the first Egyptian coins, his purpose was to pay Greek mercenaries, not to create currency for use among native Egyptians.

The attitude that money and coinage were commodities rather than wealth is an important indication of the Egyptians' perspective toward trade. While the modern merchant aims to make a profit by buying cheap, selling dear, and keeping the difference, the barter practiced by the Egyptians aimed at parity. Each party in a barter exchange offers something of equal value to the other in order to obtain goods that each desires. On every social level in Egyptian society, trade represented a means of obtaining a commodity, a finished product, or a service rather than a way of creating, storing, and bequeathing wealth. No one can profit from a barter exchange in the strict sense of possessing a greater store of wealth after the exchange than previous to it. The parties in a successful barter exchange obtain in the end objects that they value more highly or perhaps just need more than the objects that they surrender during the exchange.

The psychological difference between buy-

ing and selling to make a profit and bartering for goods that are desired or needed can be seen in the words which Egyptians used to describe the process of barter exchange. T. Eric Peet wrote a classic article that attempted to identify Egyptian words equivalent to "buying" and "selling." Peet tried to equate the verb *jnj*, a root meaning "to bring, to acquire," with the English verbs "to buy" and "to sell." He also equated the Egyptian *rdj*, meaning basically "to give," with the English verb "to buy." A few of the examples that Peet adduced demonstrate the difficulties of translating these Egyptian words with modern concepts which have no exact equivalents in the ancient Egyptian worldview.

The examples of *jnj* for which Peet used "to buy" seem to make sense, but they could equally well retain the base meaning of "to acquire." In Papyrus Berlin 9784:22 a man is advised, "Buy (or acquire) for yourself two days' service of the servant Henut." Many of Peet's examples came from the Tomb Robbery papyri, where *jnj* was used to describe first the robber's alibi for having an unusual amount of silver and gold in his possession and finally in his confession of what the robbers did with some of the booty. For example one robber falsely described the source of his silver and gold in this way: "I bought (or acquired) them [4 deben of silver; 1 deben = 91 grams (about 3 ounces)] from the Meshwesh and I bought (or acquired) the deben of gold from Nesamun" (Papyrus Mayer A. 8:14–15). Here, if Peet's translation is followed, the robber would be claiming to "buy" precious metals, the basic unit of exchange that the Egyptians used to measure the value of an object during a barter transaction. Though the details are not included in the text, the robber would have had to claim that he "bought" the silver and gold with animals, grain, textiles, or vessels, the usual components in an Egyptian barter exchange. The real meaning of the verb *jnj* can be deduced from the fact that it was usually linked with the prepositional phrases *r isw* or *r db*, which both mean "in exchange for" (PBM 10052, 2:24; 10:15; 11:7–8). These examples from Papyrus British Museum 10052 all should be translated "acquired in exchange for."

The equation of *rdj* with "to buy/to sell" is

even less convincing. In PBM 10052, 8:6–7, one man described his source of silver thus: “I gave some barley to the workman Pnufer and he gave me two kite of silver (1 kite = 1/10 deben, or 9.1 grams).” Peet attempted to translate the first *rdj* with “sold” but admitted that this would lead to a situation where both parties to the bargain sold and neither bought. Peet himself pointed out that the Egyptian language ultimately makes no distinction between the status of a commodity and that of an amount of silver exchanged for it. The Egyptians used only the language of barter. The reason, of course, is that barter was all they knew among themselves.

An example from Papyrus Cairo 65739 further demonstrates the Egyptian view and how it would be distorted if translators imposed the modern worldview on ancient transactions. In this papyrus a woman described her acquisition of a slave. She said that a man suggested to her, “Acquire (*jnj*) this slave-girl,” and the woman continues that she “gave (*rdj*) in exchange for her.” A strict equation of *jnj* with “buy” and *rdj* with “sell” would make nonsense of this passage, yielding, “He said to me, ‘Buy this slave girl,’ and I sold in exchange for her.” “Acquire” (*jnj*) and “give” (*rdj*), the literal meanings of these words, not only give a clear picture of what happened but also make clear sense in translation.

Private Barter

Exchanges were made between two people who each had something of value to the other. Goods were placed in a group until the value of the object desired was reached. A detailed example will demonstrate the nature of economic transactions between individual Egyptians.

A barter exchange well known from the papyrus published by A. H. Gardiner resulted in a civil action against one of the parties. Irynefer, an Egyptian woman, was accused of acquiring a slave girl with goods belonging to another woman named Bekmut. Irynefer had to explain the whole transaction to the court. She listed in detail the textiles, metal vessels, beaten metal, and honey offered to a man in exchange for his slave girl. Each item in her list was equated with an amount of silver or cop-

per. The twenty-four items in Irynefer’s list totaled to the equivalent of four deben and one kite of silver, the agreed value of the slave girl.

In this case Irynefer listed the value of each of the items in her list, as is found in many Dayr al-Madina documents recording transactions between two private citizens. However, because she was accused of using Bekmut’s goods to obtain the slave girl, she revealed in addition the source of each of the items in her list. As Gardiner suggested, she may have made some of the textiles herself, since their source is not described. But for the most valuable items, such as bronze vessels, Irynefer declared who traded them to her as well as their value. This proceeding suggests the reason for the Egyptian concern to carefully document every exchange made between individuals. The possibility of litigation made written records as valuable to the ancient Egyptian as they are to the modern citizen.

Barter transactions such as this could not enrich anyone. In fact, Egyptians living during periods of centralized government knew enrichment only through entrance to royal or divine service. Tjetji, a nobleman of the Eleventh Dynasty, remarked in his autobiography, “I am wealthy. . . . I furnished myself from my own property, given me by the majesty of my lord . . . [the] King of Upper and Lower Egypt.” Barry Kemp has observed that “no one who was prominent and successful claimed to be so on a basis independent of the state.” Upward mobility, though a possibility through royal favor, was a rare occurrence in Egypt. Most Egyptians assumed that even in death one maintained the same social and professional position to which one was born. Rather than a means to realize wealth and success, the economic activities that scholars have identified as trade are really only attempts to obtain goods and services as needed for a specific end. The same is the case for the royal expeditions of the Old and New Kingdoms that are known in detail.

Royal Expeditions Outside Egypt

Records of royal expeditions are the only written sources available for studying the import of raw materials into Egypt. Some expedi-

tions were trips to desert mines and quarries; others were journeys to barter for goods with other peoples. The Egyptian sources treat all expeditions as similar activities and report them with similarly standardized accounts. It is striking that this material shows such a lack of interest in true trade, despite the comments of earlier Egyptologists.

Royal expeditions to obtain raw materials to be found outside the Nile Valley began at least as early as the Third Dynasty. Scholars are aware of some expeditions from official reports recorded in private biographies and stelae or official inscriptions and reliefs in temples. Others are known from graffiti carved at the destination of the expedition and at campsites en route. These texts are unanimous in affirming that expeditions outside the Nile Valley were undertaken at the king's desire and command.

The reports on royal missions are unusually uniform, regardless of whether they are preserved as biographies, stelae, papyri, or graffiti. They record the date, the mission that the king set for the leader, and the destination. The route chosen and the preparations are also described, as well as the size of the group and the success of the work. The accounts usually end with a happy and successful homecoming.

Old Kingdom royal expeditions are most fully described in the biographies of two expedition leaders, Weni and Harkhuf. Both men served under Kings Merenre and Pepy II (Nerfakare) of the Sixth Dynasty. Both inscriptions show that even a royal expedition was a form of targeted trade. The expeditions were given very explicit assignments by the king. Weni recounted, "His Majesty sent me to Ibbat (south of Aswan) to bring the sarcophagus (named) 'chest of the living' together with its lid. . . ." Or again, "His Majesty sent me to Yebu (modern Elephantine, Aswan) to bring a granite false-door and its libation stone and granite lintels, and to bring granite portals and libation stones for the upper chamber of the pyramid 'Merenre-appears-in splendor,' my mistress." In both cases it is clear that the king initiated the expedition, indicated where the expedition should go, and knew in advance the exact use to be made of the raw materials that were to be obtained. This is not a case of trade done on speculation in the hope that a customer will

purchase the stone that has been quarried for a price greater than the cost of obtaining it. It is, in fact, no different from any other specific royal command. Weni described receiving a royal order for other public services using essentially the same language as was employed to describe the royal trade expedition: "His majesty sent me to dig five canals in Upper Egypt, and to build three barges and four tow-boats. . . ."

The trade of the royal expeditions was viewed as fulfilling the king's wishes and desires. Therefore it was really no different in concept than the barter of Dayr al-Madina. Only the details, personnel, and scale differed. The king desired a particular commodity in order to make a particular object. His wish was fulfilled by a high official whose specialty was organization, not trade. The official was equally capable of organizing a trip to the quarry for stone as for organizing the digging of canals and construction of boats.

Parallels of Old Kingdom expeditions exist for the Middle and New Kingdoms. A graffito of the reign of Nebtawyre Mentuhotep (Eleventh Dynasty) tells of the king sending ten thousand men under the charge of the vizier Ameney (the later Amenemhet I of the Twelfth Dynasty) to quarry a block of stone for a sarcophagus. Once again the specificity of the command is striking. Only the stone for a sarcophagus and lid were quarried, with no mention of bringing back anything else for another product or customer.

Hatshepsut's expedition to Punt to obtain incense for the Temple of Amun followed a similar pattern. Because it is known mostly from a royal inscription rather than the documentation left by the expedition leader, the inscription emphasizes the god Amun's desire for the products of Punt. Here the expedition leader is anonymous, known in the inscription only as a "royal messenger." Yet the basic pattern—an order being placed for products and those products being delivered by a royal official—remains the same.

As late as the Twentieth Dynasty, the agent of the Temple of Amun paid at least pro forma respect to the idea that the king commissioned trade expeditions. Whether the *Report of Wenamun* records fact or fiction, the information contained in it is valuable for an understanding

of Egyptian expeditions abroad. Wen Amun (Wenamun) did report to one of the nominal kings living in Tanis (biblical Zoan, Dja'net, San al-Hagar) before setting off for Byblos (modern Jubayl) to obtain wood for the barque of Amun. He structured his report similarly to the expedition reports of earlier periods, noting that he went to Byblos to obtain timber for the barque of Amun, called Amenuserhat. Wen Amun was not a true merchant. His title was "Elder of the Portal of the Temple of Amun." He had no interest in buying wood for any purpose beyond what was needed for Amun's barque. He bartered with gold and silver vessels, textiles, ox hides, ropes, lentils, and dried fish. He had no means of making a profit through this expedition, since he had sent from Egypt only just enough commodities to obtain what he needed for the barque of Amun.

Wen Amun described many difficulties in fulfilling his orders. There were hours of hard bargaining. Tjkerbaal, the prince of Byblos, used psychological tactics, pretending to have no interest in making a deal. Though Wen Amun's troubles in this transaction have been blamed by modern scholars on the waning power of Egypt, it seems equally likely that the descriptions in this papyrus represent hard bargaining and other tactics typically part of barter transactions.

From the earliest expeditions attested in some detail from the Old Kingdom through the voyage of Wen Amun during the disintegration of the New Kingdom at the end of the Twentieth Dynasty, ancient Egyptian royal trade expeditions showed a distinct lack of interest in anything but targeted barter. Expedition leaders only seek to fill the orders of their superiors; they show no real interest in trade for profit.

Rewards and Salaries

The expedition leader's reward was often described in the texts as "praise," really a synonym for payment. Harkhuf recounted, "I . . . was praised for it very greatly" by the king. This "praise" no doubt translated into a material reward.

Harkhuf recorded that King Pepy II was especially pleased with a dancing dwarf that he

brought back from Yam (Upper Nubia) and forwarded to the king. Though this dwarf may have been an extra item—that is, not necessarily one asked for by the king in advance—the unusual nature of this gift led to a correspondingly unusual reward. The king wrote a letter to him that Harkhuf considered important enough to have inscribed in the courtyard of his tomb. In the letter, Pepy promised Harkhuf,

His majesty will provide your many worthy honors for the benefit of your son's son for all time, so that all people will say, when they hear what my majesty did for you: "Does anything equal what was done for the sole companion Harkhuf when he came down from Yam, on account of the vigilance he showed in doing what his lord loved, praised, and commanded?" (Miriam Lichtheim, *Ancient Egyptian Literature*, vol. 1, [1973], p. 26)

Here was an expedition leader's profit from organizing a dangerous and difficult expedition abroad. All status, wealth, and comfort came from fulfilling the king's wishes. No other personal profit would have been possible within this culture.

Profit and payment for the workers on an expedition would have consisted of food staples. The Egyptians expressed payment in units of bread and beer, the main components of their diet. Workers' salaries, which were close to subsistence level, were actually paid in grains used to make bread and beer. Just as coins in modern economies are guaranteed to contain equal amounts of metal, the Egyptians ensured that each loaf of bread was baked from a standard recipe using equal amounts of ingredients and so had a standard value as sustenance.

Standardization was assured through a system called *psw* in Egyptian, which could be translated as "baking value." The baking value was based on the number of loaves produced from a measure of grain. The higher the baking value, the smaller were the loaves, the weaker was the beer, or the smaller were the beer jars. Most wage lists seem to assume that a standard *psw* was used in baking and brewing.

Standardization could also be guaranteed through the use of tokens or tallies. Tallies in the shape of standard bread loaves have been found in the Middle Kingdom fort at Uronarti. Presumably a tally could be used to check that

a worker's wages in bread loaves were all the same size. Beer jars were also presumably a roughly standard size.

The standard basic wage was ten loaves of bread plus from 0.33 to 2 full jugs of beer per day. This was the amount paid to the lowest-paid staff members. Others were paid in multiples of this standard wage, varying from twice to as much as fifty times this amount for very highly paid people. Various methods could be used for apportioning wages. In one ship's crew, the captain and other officials received twice the ration of the ordinary sailors. In another case the highest-paid official received 38.33 loaves while the lowest-paid worker received 1.33.

In the Middle Kingdom, the staff of a temple received a commission on all the goods that arrived there. A set of Middle Kingdom contracts relating to the endowment of a mortuary cult for an individual that was purchased from the priesthood of the temple of Wepwawet in Asyut (Lykopolis) describes a situation where the staff was paid by "temple days." In this method all the goods that entered the temple were divided into 1/360s. This included the bread, beer, and meat that were received at the temple as offerings. In this temple the regular staff received 2/360 of the total revenue of the temple, while the chief priest received 4/360.

In another case from the Middle Kingdom, this one describing the wages of an expedition leader, the chief of the expedition received five hundred loaves per day. Clearly large quantities like this were not paid in actual loaves of bread or jars of beer. An expedition leader could not have taken the fifteen thousand loaves of bread he was allotted for a month with him on an extended trip into the desert. Nor could he have eaten this much, even with a large family and servants to support. Therefore it is likely that "five hundred loaves of bread" was actually a unit for measuring out commodities, approximating the modern idea of a unit of money or of account. It might also have been possible for the expedition leader to save and draw against an account of bread and beer that he was owed.

Because the standard measures for bread loaves and beer jars varied from place to place and from time to time, it is difficult to calculate

how much people had to eat and to determine how well they lived on their salaries. William Kelly Simpson has calculated the caloric value of a soldier's ration at Uronarti during the Middle Kingdom. Here the standard ration of barley was approximately one-half pound per day. Baked into bread, this was the equivalent of 1,458 calories from bread each day. If these soldiers did any physical work, it is hard to believe that they did not also receive at least an additional 1,500 calories from beer or vegetables just to maintain their weight. As Kemp has commented, "The pyramids were built on a modest health food diet."

Trade Through Diplomatic Gift Giving

In the tomb of Khnumhotep, a nomarch at Beni Hasan during the Twelfth Dynasty, there is a scene depicting a caravan of Levantine men and women. In the inscription, they convey to him galena, a lead ore used by the Egyptians as eye paint. This is the earliest clear example in a tomb inscription of foreigners bringing commodities to Egyptians under the rubric *jnw*, or "diplomatic gift." Though scholars have often described this type of exchange as trade, it more likely represented a gift to the king, or in this particular case, a gift redistributed to a nomarch. This depiction is therefore related to inscriptions in a group of Eighteenth Dynasty Theban tombs, including those of the vizier Rekhmire, the high priest Menkheperresonb, the scribe of recruits Tjanuny, and the viceroy of Nubia, Huy. In all of these tombs, there are depictions of parades of foreigners conveying gifts to the king that use the Egyptian term for "diplomatic gift." Here the word "gift" should be understood as a commodity exchange governed by social and cultural custom rather than economic considerations. It was not an exchange necessarily made by choice. However, any sense of coercion comes from a desire to conform with custom rather than from fear of retaliation.

Though diplomatic gift giving probably never accounted for more than a small fraction of the total commodities exchanged, it assumed an importance beyond its economic impact. The practice was widespread throughout the

ancient Near East. The Egyptian king made no distinction between the gifts he exchanged with foreign kings and those he received from or gave to his own subjects. In all cases the exchange was called *jnw*.

The reception of diplomatic gifts was ritualized by the ancient Egyptians. According to one papyrus (Papyrus Koller), diplomatic gifts were collected by the king on a specific day every year. This "day of presenting diplomatic gifts" has been linked with the New Year's Festival. The parades shown in tombs most probably represent the participation of the tomb owner in this important annual event, either on earth or in the next world.

Diplomatic gift giving was most likely reciprocal. Many of the Amarna Letters from the reigns of Amenhotep (Amenophis) III and Akhenaten refer to the expectation that non-Egyptian rulers had of receiving gold from the Egyptian king. Tushratta of Mitanni perhaps best expressed his fellow near eastern ruler's conception of a proper gift when he wrote to Amenhotep III: "I have likewise requested of my brother much gold saying: 'Oh that my brother might grant me more than [was granted] to my father, and that he might send it to me.' You sent much gold to my father." Though it is not clear whether Tushratta got his wish, numerous such requests in the Amarna Letters suggest that sending gold to his "brother" kings in the Near East was not a totally unreasonable idea to the Egyptian king.

There is also ample evidence that the Egyptian king exchanged gifts with his subjects, both as a donor and receiver. The king received gifts from the Egyptian populace as early as the First Dynasty. For many reigns of the Early Dynastic period, Old Kingdom, Middle Kingdom, and New Kingdom, there is evidence that the Egyptian population gave such gifts to the king. In the earliest period, ivory labels attached to the gifts have been found at royal tombs and cenotaphs. Jars from the Second Dynasty found in Seth Peribsen's royal tomb bear inscriptions that describe the contents as a gift to the king from an official, a geographical area, or an individual. In Djoser's Step Pyramid at Saqqara, a large number of inscribed jars was found attesting to the continued practice of giving gifts to the king. The Abusir Papyri attest to

the individual's interest in giving gifts to the mortuary temple of Neferirkare Kakai, even after his death.

Little archaeological evidence of gift giving survives from the Middle Kingdom, yet a large number of account papyri from the mortuary temple of Senwosret II at al-Lahun attest to the continued custom of giving gifts to the king. Evidence from the New Kingdom includes such archaeological remnants as jars labeled as gifts for Amenhotep III from his palace at Malkata and numerous descriptions of gift giving in the historical texts of this era.

In return the king honored his obligation to give gifts to the population. From the reign of King Den of the First Dynasty, there is an ivory label found in the tomb of a nonroyal person that was once attached to a gift of a more perishable material. In the Middle Kingdom, Khnumhotep, a governor of the Hare Nome, commented in his biography that his son had received gifts from the king. Papyrus Boulaq 18, xxvi:1-2 refers to the king's gifts to his subjects and locates the ritual at which they were distributed in the forecourt of the palace. From the New Kingdom, there is evidence that the king gave gifts to the gods, with the same word used to describe them that was used for gifts to foreign kings and native Egyptians. These gifts were used as raw materials to enlarge or provision the temples.

The importance of gift exchange resided in the way that it cemented the social relationships among rulers of the Near East, the hierarchy of king and subjects, and the relationship between king and gods. Gifts could be given among equals, from lower status to higher status, and the reverse. Gift exchange was both an expression and a cementing of social relationships. It was part of the trust building that allowed a redistributive economy to function.

Government Efforts to Promote Trade

Long-distance trade depended on able individuals like Weni and Harkhuf to carry out the king's wishes. However, without royal help, individuals could not have commanded the large number of people needed to make an expedition a success; nor could they have maintained the infrastructure of roads, canals, wells, and

rest stops in the desert that were necessary to maintain long-distance contacts with Nubia and the Levant.

Royal support must have been needed to organize, support, and protect expeditions that ranged in size from one hundred to seventeen thousand individuals. No one but the king could have called on the services of the wide variety of skilled workers needed for an expedition. In addition to the people actually doing the work in a quarry, for example, a support staff of brewers, millers, bakers, sandal makers, cooks, physicians, and in some cases even embalmers was provided. Large quantities of foodstuffs were needed to support these people as they traveled for as long as four months outside of the Nile Valley. Security also would have been important. For the Egyptians, the expeditions were semi-military in nature; they used the same word to describe both an expedition and an army. The military aspect of the expeditions stemmed from the need to protect them when they moved outside the Nile Valley. Royal protection of expeditions is indicated by the prevalence, in the graffiti left by expeditions to the Sinai, of the "smiting scene" in which the king ritually slays Egypt's enemies.

The central government must also have supported the infrastructure that made trade expeditions possible. Canal digging is attested in inscriptions throughout Egyptian history. Nekhebu of the Sixth Dynasty spoke of building canals in Akhbity (ancient Khemmis) in the Delta and in al-Qusiya (Cusae, Qis) at King Pepi I's (Meryre Pepy I's) command. Canals were not only important for irrigation but also played a role in navigating the Nile. Wells and rest stops in the desert must also have been important aspects of the government-maintained infrastructure. The Quban Stela of Ramesses (Ramses) II mentions attempts made by Sety (Sethos) I to dig a well in the Wadi al-ʿAllaqi on the road to the gold mines. Ramesses II successfully completed this well. Sety I is also known to have commissioned a well and a small temple with a settlement at Kanayis in the Wadi Mia, east of Edfu. This settlement must have served as a source of supplies and an overnight rest stop for expeditions. It is probably also comparable with the small settlements discovered at approximately fifteen-kilometer

(9-mile) intervals in the northern Sinai along the Ways of Horus, the main road to the Levant from Egypt.

In sum, royal long-distance trade paralleled the targeted barter found in the village. The king commissioned his officials to fill orders for specific products needed for specific purposes. He helped supply the personnel needed to support the work of an expedition and defend it while outside of the Nile Valley. Moreover the king provided the infrastructure that made long-distance trade possible. He also participated in ritualized gift giving with near eastern princes, his own subjects, and his gods, which has been evaluated here as an element of commodity exchange that reenforced the redistributive economic system. The question of whether there was a place for private traders in this system will be considered next.

PRIVATE ENTERPRISE

The Case for Private Merchants

The foregoing account of the ancient Egyptian economy leaves no place for the activities of private merchants. It has been argued here that the prevalence of targeted barter throughout classical pharaonic civilization never required the invention of money, although units of value were used in barter and perhaps in payments to expedition leaders. The absence of money as a means of obtaining wealth was paralleled by the absence of a profit motive and price-making markets in the Egyptian worldview. Yet increased interaction between the Egyptians and other peoples of the eastern Mediterranean world, beginning in the late second millennium BCE and continuing into the first millennium BCE, coupled with the rapid decline of central government in Egypt after the Nineteenth and Twentieth dynasties, led to a change in the economy. The end of strong central government after the New Kingdom was another factor leading to the end of the classical organization of the Egyptian economy.

One recent exponent of the belief that there was a place for the private merchant in ancient Egypt is Morris Silver. Not surprisingly, the evidence that he adduces for private traders comes from the First Intermediate Period and

the end of the Ramesside period, both times of weak or nonexistent central government. The existence of such traders is never attested in Egyptian sources from periods when the economic apparatus of the central government was functioning well. There was no legitimate economic niche for such individuals while the redistributive economy controlled by the central government existed.

The *shuty* (*šwtj*), understood to be a merchant but more probably an agent of the temple, is known from about sixty attestations in Egyptian texts. The majority of the known agents lived in the reign of Ramesses XI at the end of the Twentieth Dynasty. Most earlier individuals of this profession were clearly people acting as agents for an institution. Those who appear not to have been linked directly with an institution were said by ancient sources to be “under the authority” of someone else, most probably an official of a temple. There was even a “Chief of the *Shuty*,” apparently an office structurally similar to chiefs of other departments of government or the temple. In any event there is no convincing evidence that the *shuty* played a major role in the Egyptian economy during its classical phases.

There was, of course, semi-organized barter, which is represented in some tombs of the Old and New Kingdoms. It appears to have taken place along the riverbank and was usually represented by a ship in a lower register. The captions in some representations seem to portray the same sort of barter attested to in the Dayr al-Madina ostraca. This, however, does not constitute evidence for people living from the proceeds of trade. The most commonly exchanged items in the depictions are vegetables, fish, sycamore figs, drinks, and metal containers. Most often people are shown trading one kind of food for another. Here people are attempting to create some variety in their diet or home furnishings rather than engaging in trade for profit.

A second challenge to Polanyi's model of the redistributive economy and its applicability in ancient Egypt has been made by Barry J. Kemp. Kemp objects to the exclusive characterization of any economy as purely market driven or purely redistributive; no one system, he argues, can meet all human needs. Kemp ex-

amines how the system failed to keep its promise to support the people who participated in it by inspecting economic conditions during the First Intermediate Period, when central government was weak. The grave goods in tombs found in Qau and Badari dating to the Seventh and Eighth dynasties lead him to posit that the absence of a central government led to greater prosperity at the local level; the best resources remained at home rather than being collected by the central government.

The archive of Hekanakhte, consisting of letters written by a farmer at the end of the Eleventh Dynasty, also illustrates economic conditions in the absence of a strong central government. His letters contain clear evidence that Hekanakhte loaned grain at interest, paid rent on land in advance, and had “capital” in copper, oil, and cloth. Hekanakhte's archive demonstrates that the Egyptians were capable of looking after themselves when the government did not interfere.

A different kind of response to the absence of a strong central government is found in Ankhtyfy's tomb biography from the early First Intermediate Period. This biography reveals the common impulse of an ancient Egyptian local potentate when central authority weakened, which was to claim for himself privileges formerly reserved for the king. After conquering the neighboring nomes, Ankhtyfy distributed famine relief, surely in return for recognition of himself as the new central authority that would collect a portion of the next successful harvest. The redistributive economy was reestablished on a smaller scale.

Kemp also introduces evidence regarding aspects of the economy not under the control of the central authority during the major periods of strong central government. However, this material is less convincing than the evidence he adduces from the First Intermediate Period. Examples of such doubtful evidence from the New Kingdom are the differing sizes of Amarna (Akhetaten) houses, the Amarna gold hoard, and the *shuty*, which he adduces as indications of a market-driven economy.

In the late 1920s, a hoard of gold was discovered in Amarna by Henri Frankfort and J. D. S. Pendlebury. It weighed over 3,000 grams (105 ounces) and took the form of bars and roughly

made rings. Also discovered was a silver figurine and other rough scraps of silver weighing over 1,000 grams. The hoard has been interpreted as either a thief's loot or a jeweler's stock. Kemp believes that, whatever its origin, "it illustrates easily convertible wealth poised on the point of re-entering the economy at a private level." However, even if that is true, the method by which this wealth reentered the economy is not evident from the bars of gold themselves. Who would be able to afford bars of gold except the government? Who among the wealthy, besides government officials, lived in Amarna? It was the quintessential government town.

The same question might be raised in regard to varying house sizes at Amarna, which constitute Kemp's evidence for an interest in status, wealth, and power—and therefore in acquisition. Polanyi's model does not deny that these desires exist, but it recognizes that the route to power varies from culture to culture. In Egypt, the quickest route to status, wealth, and power was royal favor. It is hard to believe that anyone living in Amarna obtained his house in any way other than through the king's pleasure. Higher officials naturally would receive better, larger houses.

Finally Kemp returns to the issue of the *shuty*. The *shuty* is the major receiver of stolen goods in the Tomb Robbery papyri of the late Twentieth Dynasty. This significant illegal activity on the part of the *shuty* was a part of the economy. The *shuty* seems to have borne no social responsibility and to have been outside the system. Yet it is doubtful whether his role could have been very important in the overall economic life of Egypt. Not one written document attributed to a *shuty* is known to have survived from ancient Egypt. Writing was invented to keep track of economic transactions. Why, if private trading had any real significance, are its traces so difficult to locate in the ancient record?

The End of the Pharaonic Economy

Wolfgang Helck suggested that the evidence for agents becoming independent of institutions at the end of the Ramesside period points to the gradual destruction of the Egyptian

economy in its classic form. The ration redistribution system must have disintegrated during the economic crisis of the Twentieth Dynasty. A freer trading system, as known in classical Greece, was clearly present in Egypt during the Saite period, in spite of attempts by the government to limit it. In the mid fifth century BCE, Herodotus (2.39) observed Greek merchants throughout Egypt. The redistributive system that had flourished throughout the classical periods of Egyptian civilization was never revived.

CONCLUSIONS

Surviving sources from pharaonic Egypt contain extensive detail concerning the means of obtaining and allocating goods and services. Nevertheless, significant gaps remain in our understanding of ancient Egypt's trade and economy. A number of vital questions have been omitted here because relevant evidence is not preserved in the sources. Perhaps the most important of these is the extent to which an individual Egyptian could actually own anything, given the cultural conceit that the king owned "all which the sun-disk encircles," that is, everything in the world. Subsumed under this question is the matter of the extent of private land ownership. Though records exist for land rental at the end of the Eleventh Dynasty and for temples renting out land at the end of the New Kingdom, little is understood of the meaning of this practice. Egyptologists have only begun the research needed for a comprehensive interpretation of the Egyptian economy.

Yet in spite of these limitations on our understanding, it is clear that the Egyptian economic system served the needs of the country. Long periods of stable central government would have been impossible had the basic needs of most Egyptians not been met. Though it was far from a modern ideal of the welfare state, the reestablishment of the redistributive system along with the central government both in the Middle and New Kingdoms suggests its utility under prevailing conditions.

BIBLIOGRAPHY

Natural Resources

Egypt's natural resources and their relationship to trade are discussed by WOLFGANG HELCK, "Handel," *Lexikon der Ägyptologie* 2 (1977).

Theory

Karl Polanyi's essays are collected in GEORGE DALTON, ed., *Primitive and Modern Economics: Essays of Karl Polanyi* (1971). His theories are further developed and described in GEORGE DALTON, *Economic Anthropology and Development* (1971), and SALLY C. HUMPHREYS, "History, Economics, and Anthropology," *History and Theory* 8 (1969). Good discussions of the redistributive theory's applicability in Egypt are: JAC. J. JANSSEN, "Prolegomena to the Study of Egypt's Economic History During the New Kingdom," *Studien zur Altägyptischen Kultur* 3 (1975), and "Die Struktur der pharaonischen Wirtschaft," *Göttinger Miszellen* 48 (1981); and RENATE MÜLLER-WOLLERMANN, "Warenaustausch im Ägypten des Alten Reiches," *Journal of the Economic and Social History of the Orient* 28 (1985). Criticism of Polanyi's theories is found in BARRY J. KEMP, *Ancient Egypt: Anatomy of a Civilization* (1989), chapter 6; DOUGLAS C. NORTH, "Markets and Other Allocation Systems in History: The Challenge of Karl Polanyi," *Journal of European Economic History* 6 (1977); and MORRIS SILVER, *Economic Structures of the Ancient Near East* (1985).

Barter and Coinage

Barter and the implications of the lack of coinage are discussed by: JAMES W. CURTIS, "Coinage of Phara-

onic Egypt," *Journal of Egyptian Archaeology* 43 (1957); ALAN H. GARDINER, "A Lawsuit Arising from the Purchase of Two Slaves," *Journal of Egyptian Archaeology* 21 (1935); JAC. J. JANSSEN, *Commodity Prices from the Ramessid Period* (1975), especially the final chapter; and T. ERIC PEET, "The Egyptian Words for 'Money,' 'Buy,' and 'Sell,'" in *Studies Presented to F. Ll. Griffith*, edited by STEPHEN R. K. GLANVILLE (1932). On the use of foreign coinage in Egypt, see REGINALD ENGELBACH, ed., *Introduction to Egyptian Archaeology, with Special Reference to the Egyptian Museum, Cairo* (1946); M. M. AUSTIN, *Greece and Egypt in the Archaic Age*, Proceedings of the Cambridge Philological Society, Supplement 2 (1970).

Gift Exchange

Gift exchange as a form of trade is discussed by EDWARD BLEIBERG, "The King's Privy Purse during the New Kingdom," *Journal of the American Research Center in Egypt* 21 (1984) and DIETER KESSLER, "Die Asiatenkarawane von Beni Hassan," *Studien zur Altägyptischen Kultur* 14 (1987). MARIO LIVERANI, "'Irrational' Elements in the Amarna Trade," in his *Three Amarna Essays*, translated by Matthew L. Jaffe (1979), discusses the phenomena from a near eastern perspective.

Private Merchants

The existence of private merchants is discussed by WALTER F. REINEKE, "Waren die šwtȝw wirklich Kaufleute?" *Altorientalische Forschungen* 6 (1979), and A. THÉODORIDES, "À propos de Pap. Lansing 4,8-5,2 et 6,8-7,5," *Revue internationale des droits de l'antiquité* 5 (1958).

SEE ALSO Legal and Social Institutions of Pharaonic Egypt (Part 4, Vol. I) and The Economy of Ancient Western Asia (Part 6, Vol. III).

The Economy of Ancient Western Asia

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TRENDS TOWARD CIVILIZATION

The appearance of the world's first cities, states, civilizations, and the historical record itself in ancient Western Asia all depended on prior, fundamental economic changes. Specifically, the transition from hunting-and-gathering to reliance on the production of domesticated cereal grains underlay all subsequent processes of social stratification and political development. "Economy" here means those aspects of human behavior that concern the production, management, distribution, and consumption of material wealth as well as the structural relations that determine commodity transactions. Thus, while economics relates to the aggregate of "economic" activities, it cannot be isolated from those social and political phenomena that both determine and are determined by the production and allocation of resources.

In ancient Western Asia economic changes caused and/or accompanied the transition from societies in which rank and status were minimally differentiated (apart from categories of sex and age) to societies that were internally riven, stratified in categories that were not solely based on the kinship system: societies that included governors with bureaucratic-administrative dependents, and segments of the population that not only were governed and paid taxes but also were unfree. While a "moral economy" of shar-

ing characterized earlier near-egalitarian societies, in later states a "political economy" developed in which rank, privilege, and profit were considered natural elements within new value and belief systems.

Data on the economies of ancient Western Asia are abundant. Prehistoric archaeological findings mainly concern economic activities. Objects of chipped and ground stone, bone, and metal are tools; the size of dwellings, amount of luxury goods found in mortuary deposits, ceramic containers, and other storage facilities all encourage archaeologists to reconstruct the prehistoric economy. Similarly, investigations of the ancient environment, types of plants and animals controlled by people, and nutritional well-being and disease (through osteological material) all reveal primarily economic behaviors. While the nature of ancient culture, its values and beliefs, the kinship system, and political structure of prehistoric societies are subjects of archaeological research, most of the inferences about such topics are routinely considered more fragile than are reconstructions of the economy.

In the historical period the data on the economy is also rich. Writing originated about 3100 BCE, at the end of the Uruk period in Mesopotamia, in order to keep track of people and goods. At that time in Mesopotamia there was occurring, from the perspective of human social

development, an “evolutionary punctuation mark.” That is, toward the end of the fourth millennium, there was an urban implosion in which city-states were formed in southern Mesopotamia. This was a process of “nucleation” in which the countryside was depopulated, and thus, in addition to the resulting “urbanization,” we must reckon with “ruralization” as characterizing the restructuring of the Mesopotamian economy. In the early-to-middle third millennium (the apogee of this demographic trend), perhaps as much as 80 percent of the population lived in towns or cities. In addition to writing, which was invented in these first cities, there arose a new and sharp division of labor that encompassed rulers, priests, managers, craftsmen, laborers, and unfree persons. These profound changes led to new kinds of organized conflict among the city-states in the early third millennium, long-distance expeditions to control the distant countryside and the access to scarce goods, and an internal struggle for power among the various elites within the city-states.

The historic data of these processes are read mainly from texts dealing with economic affairs. These include records of the organization of daily activities, especially in temple estates. Royal inscriptions also reveal that battles were fought over the best arable land and that securing access to trade routes was considered an important duty of kings. With the centralization by Sargon of Akkad, about 2350 BCE, economic documents of the new empire were written for the first time in Akkadian. From the time of the Third Dynasty of Ur (ca. 2100–2000 BCE), tens of thousands of tablets (written in Sumerian) from the enormous, enveloping bureaucratic systems have been studied. Our knowledge of aspects of Ur III that were not part of the bureaucratic system is meager. But, as I. M. Diakonoff and I. J. Gelb have shown, we can recognize the bias of the available documentation and logically infer the existence of those elements of society that occupy, quantitatively, little space in the official archives. No longer do Mesopotamians speak of a temple-based economy and society (*Tempelstadt*) in the early third millennium and a royal economy (*Staatstadt*) at the end of the third millennium.

In the early second millennium, the bias of documentation on the economy is quite differ-

ent. In the Old Assyrian period, for example, only a few texts from Asshur (modern Qalat Sharqat, or Assyria) have been found, so little of bureaucratic affairs is known; almost all the Old Assyrian tablets are from Anatolia and document the long-distance trading system based in Asshur. While much is known of the royal and temple economies in the Old Babylonian period, for the first time in any quantity we also have texts that record the private sale of land and movable property, inheritances, lawsuits, and other aspects of the economy that are missing in the official archives from the third millennium. Thus, on the one hand, it is clear that different kinds of sources can lead us to conclusions about different economic activities; on the other hand, we are less certain whether there are changes in the economy or whether it is only the source of knowledge that has changed, according to the accidents of preservation and recovery.

Finally, in reviewing the economy of Mesopotamia and ancient Western Asia, there is the problem of the lack of necessary statistical data. While the texts contain figures on workers and goods in abundance, there is no way to calculate population figures and total amounts of products in any given period of time—much less how the number of people and products changed over time—in any but the roughest manner. Nevertheless, the sheer number of texts relating to the economy in Mesopotamia over three thousand years of historical record (and even longer if we count prehistoric investigations) is staggering. Studies attempting to gather economic data are still relatively few, and rarer still is the employment of machine-aided technology that is needed to give order to the data. Nevertheless, some remarkable progress has been made in recent years, and the study of the economy of Mesopotamia and ancient Western Asia is flourishing within ancient Near Eastern studies as a whole.

DEVELOPMENT OF THE ECONOMY

In the last part of the Paleolithic, at a number of sites in Western Asia, humans were gathering and processing cereals, legumes, and many other

wild plant resources, as well as hunting a variety of large and small game. In the early Neolithic, as the climate grew wetter and warmer, seasons became pronounced and people began to live in permanent villages and relied more on local resources, including cereal grains, which they roasted to remove the husk, mixed with water, and ate as porridge, baked as bread, and drank as beer. They also stored part of the harvest to use during the hot summers or to survive droughts. These first permanent villages were located near perennial water and at the edges of forest and steppe land, in order to take advantage of the wild resources of these ecozones. While such villages may initially have subsisted on bountiful harvests of wild grain (as at Abu Hurayra and Mureybit), intensive gathering activities tended to deplete the natural resources.

It was thus a natural step to plant some of the stored harvest and to select more carefully for tough-rachis varieties of wheat and barley, plants with the genetically recessive trait of not dispersing seed easily (for example, at a gust of wind). Thus, by about 8000 BCE, Neolithic people “domesticated” plants through increasing the proportions of tough-rachis varieties, whose characteristics they could more easily manage, and through shielding these plants from their more reproductively successful natural competitors. By selecting and storing part of their harvest of wheat and barley, Neolithic people, who needed to use stored food if they were to maintain permanent residence, learned to expect a delayed return on their energy. The consequences of this new pattern of economic activity, a major change from previous expectations of immediate returns in mobile, hunting-and-gathering societies, were enormous. The process of sedentism in environments of plenty, in which people subsisted first on naturally occurring wild resources, then increasingly on varieties of resources they could manipulate for their own benefit, also resulted in the domestication of animals—smaller, gentler, woollier, herdable animals that could be managed by humans and protected from wild members of their species.

It must be stressed that knowledge of the characteristics of these plants and animals did not begin in the Neolithic. For millennia people had known about the wild resources encountered in

their seasonal rounds to and from their base camps. What changed, importantly, was the expansion of resources from their refuges in the colder and drier Pleistocene period in the new conditions of the Holocene. It was the process of sedentism, therefore, that resulted in the intensification of human activities that made certain types of plants and animals that were beneficial to humans dependent on humans for their reproduction and propagation. Domestication also meant, however, that humans became increasingly dependent on these plants and animals that required so much labor to manage.

The evidence in later Neolithic sites is that domesticated plants and animals formed increasingly important parts of the human diet. Sites were larger, regularly included hearths and storage pits, and contained large, immovable stone mortars. There is also evidence that intensive exploitation of the local environment resulted in environmental degradation. The excavator of Ayn Ghazal in Jordan has calculated that so many trees had to be cut down to use as fuel in the process of making the tons of lime plaster used in walls and floors of this later Neolithic village that the area finally became deforested and uninhabitable. Similarly, many sites in the Levant were abandoned at the end of this period.

Consequences of Food Production

Consideration of the agricultural way of life in Neolithic villages cannot be reduced to the study of economic activities. Indeed, there is evidence of intensified ritual practices in the headless bodies and separate burial of skulls (at many sites), the ceramic statues (at Ayn Ghazal), and the ritual buildings (at Çayönü). Further, monumental fortifications were constructed at Jericho and Maghzaliyah, showing communal investment against enemies; domestic residences were regularly subdivided, probably indicating new concern with inheritance of parts of structures.

The larger sizes of sites imply population growth, presumably attendant on the usefulness of children in the agricultural process, and the attenuation of infanticide in sedentary societies, and perhaps the earlier onset of menarche that resulted from a starchier diet and increased

body fat in women who were no longer on the seasonal march. Population also expanded into new niches, not only as a result of population growth but also because epidemics, famine, and environmental degradation caused the abandonment of sites and regions and the movement of domesticated species into niches where they were not native. In some of these environments, notably southern Mesopotamia, domesticated plants could flourish on alluvial soils, especially when simple irrigation was employed, such as at Choga Mami, the first site where irrigation is evidenced, in the fifth millennium.

Sedentary agricultural economies included expanded concern with the acquisition of goods produced in both neighboring and distant zones. Regional spheres of interaction are denoted through pottery motifs, such as those of Hassuna and Samarra (in the seventh through fifth millennia), and long-distance trade can be observed from the circulation of obsidian from Anatolia into the Levant and Mesopotamia. These trends, occurring in northern Iraq, the natural habitat of domesticable plants and animals, established the preconditions for exchange with the south, where these resources were lacking. Later in the south, where urban civilization was made possible by the massive surplus of agricultural products produced by unfree labor on large estates of palaces and temples, the manufactured goods were traded to the north in return for those raw materials which were plentiful there, such as wood, stone, and precious and semiprecious metals.

In sum, the consequences of climate change, sedentism, and the agricultural way of life set the stage for further, and even more remarkable, changes in the economy and society of ancient Western Asia. In agricultural villages by the end of the fifth millennium, humans exploited their environment by managing wheat, barley, and a variety of other plants; they also herded sheep, goats, and cattle, and kept pigs and dogs. A new division of labor accompanies the production, storage, and distribution of these domesticants that included new gender-related activities, in which women were progressively concerned with domestic activities and their status became determined by their families. New leaders emerged with access to resources, especially the schedules of storage and distribution, and to rit-

ual knowledge, which legitimized the new division of labor. The economy of ancient Western Asia had changed, perhaps not in a "Neolithic revolution" if one considers the pace of change, which took thousands of years; nevertheless, the consequences of these changes in organization of societies was certainly revolutionary.

TRADE

The acquisition of resources from distant locations was a feature of the economy that preceded the Neolithic: for example, seashells from the Mediterranean are found 60 miles (100 kilometers) inland as far back as 15,000 BCE. With the onset of permanent settled communities, whose inhabitants knew about the existence of distant resources, the regularized movement of goods between zones can be described as trade. Trade is an important topic in prehistoric studies because traded objects usually are easily recognizable in the archaeological record and can be analyzed through laboratory techniques and geographical investigations that can determine their natural distribution. Archaeologists can then model the mechanisms through which objects reached the place where they were recovered.

Trade studies are also important because trade affected the internal structure of societies, and changes in the kind and volume of trade provide indexes of the nature of the wider economy and society in which trade is embedded. Furthermore, the movement of goods among settlements promoted new work and divisions of labor within settlements; trade brought in necessities such as cutting tools and building materials, supplied status goods for emerging elites, and created status for new specialists in the procurement of such trade goods. Trade, therefore, functioned both as a reflection of organized institutional principles and as an important institution that required organization. (See "Ancient Western Asia Before the Age of Empires" in Part 5, Vol. II, for a map showing the region and to trace the trading routes.)

Prehistoric Trade

It is apparent from the investigation of obsidian trade that the long-distance movement of goods

in Western Asia preceded the existence of stratified and centralized society. Thus, as is known especially from ethnographic studies of Melanesian trade, the long-distance movement of goods does not necessarily depend upon any formally specialized organization of a trading system.

Exhaustive tests conducted in physics laboratories (including spectrographic and neutron activation analyses) have “fingerprinted” several obsidian flows in central and eastern Anatolia and thus have traced the obsidian found at Neolithic sites in Western Asia to their points of origin. Colin Renfrew has proposed that the obsidian was exchanged “reciprocally” between villages in a system of “down-the-line” trade, once a “supply zone” radius of 120 to 180 miles (200–300 kilometers) was exceeded. This type of trade, well known from ethnographic examples, depends on goods being passed along in ceremonies or during lulls in the production season. According to Renfrew, the volume of material in this type of trade falls off exponentially with the increase in distance from the supply zone. Thus, in the Neolithic, through relatively undifferentiated societies, obsidian was circulated as the preeminently suitable cutting tool. During this period, some Anatolian sites (e.g., Çatal Hüyük) may have become specialized centers for the extraction and production of obsidian. In periods after the Neolithic, the volume of obsidian in sites no longer obeyed the “fall-off” principle; it has been inferred that more-specialized means of acquiring obsidian were practiced in increasingly differentiated societies. From this example it is held that the long-distance circulation of goods did not have to wait for ranked societies but was already a factor influencing culture change as early as the onset of food production.

Lapis lazuli has similarly been traced to a single source area, the high mountains in Badakhshan, northeastern Afghanistan, more than 1,200 miles (2,000 kilometers) from Tepe Gawra, where, in a site from about 3500 BCE, more than five hundred beads were found in mortuary deposits. A Sumerian myth, *Enmerkar and the Lord of Aratta*, explicitly refers to the importance of lapis lazuli to Mesopotamian rulers, and the famous artifacts from the royal cemetery at Ur (modern Tell al-Muqayyar) amply demonstrate its use in elite Mesopotamian life. The city

of Aratta, thought to lie in central Iran, was one of several places that were intermediate points in the shipment of lapis to the demand center of Mesopotamia. In the Iranian site of Shahr-i Sokhta, a workshop has been identified in which the lapis was processed and prepared for further shipment to the west and south. Finds of lapis made along the Arabo-Persian Gulf indicate an interregional trading network that, by the mid third millennium BCE, extended from Central Asia to the Iranian Plateau, to the Indus Valley, to the Persian Gulf, and to Mesopotamia. Obviously, the wealthy and increasingly stratified Mesopotamian society was exerting a powerful demand for status items that could be represented by exotic trade goods. By the same token, in lands that produced these status items or in which specialized facilities for handling the trade were developed, new status relations were forged from this long-distance exchange. This is seen most clearly in the Gulf trade.

Gulf Trade

Beginning in the fifth millennium, southern Mesopotamian pots, dating to the Ubaid period and many from Ur, were shipped to the Arabian littoral, where they are now found. By the late fourth millennium, goods from the Persian Gulf, especially shell artifacts, are consistently found in Mesopotamian sites. The most important resource of the Gulf region was copper, which occurs in large quantities in Oman.

In the early third millennium, copper was primarily a luxury—for example, it was cast (by the lost-wax process) into ritual objects—although it was also employed in the making of agricultural tools and weapons. The pre-Sargonic kings of Lagash, at the end of the Early Dynastic period, reported trade with Dilmun, which includes the modern island of Bahrain, and Sargon boasted that ships from Magan (the southern Gulf) and Melukkha (the Indus Valley) sailed into his ports. In the time after Sargon, copper became a necessity, being accounted in bureaucratic texts of the Ur III and Old Babylonian periods by weight as well as numbers of, for example, agricultural implements. Presumably, when the tools were broken in the field the pieces were brought into palace workshops and resmelted. Since copper could be obtained not only from

the Gulf but also from Iran and Anatolia, southern Mesopotamians were favorably situated to exploit its traffic. (For details on trade with South Asia and Northeast Africa, see the chapter "Distant Shores," later in this volume.)

The island of Bahrain served as an entrepôt for goods flowing through the Gulf that could be transshipped to Mesopotamia. Today the island is covered with tens of thousands of ancient tumuli (burial mounds) dating to the late third and early second millennia. The principal site of this period has been investigated, and the very limited agricultural potential of the place has been assessed as inadequate to support the inferred population of the island. In Mesopotamian texts it is reported that massive shipments of barley were made to Bahrain; indeed, one text records a load of 187,500 gallons (714,000 liters) of grain, enough to feed the entire estimated population of Bahrain for ten to twenty weeks. As a result of its role in the copper trade, therefore, Bahrain experienced prosperity and population growth, well beyond its local means to support. When a collapse in the centralized Mesopotamian state occurred toward the end of the Old Babylonian period and trade to the south became impractical, both social and political organizations in Bahrain were irrevocably altered.

Trade and Politics in Early City-States

In the middle of the fourth millennium, the Uruk culture in Mesopotamia underwent massive changes in almost every dimension of social life that are best known at the site of Uruk (modern Warka; biblical Erech) itself. Large temple complexes were erected, works of art were produced, the technique of writing was invented, and the hinterland was depopulated in an urban implosion. In sum, the city-state was born. (See the chapter "The Development of Cities in Ancient Mesopotamia" in Part 3, Vol. I.)

As a result of this profound, new, and vast division of labor in such city-states as Uruk, a new possibility for acquiring distant resources appeared: founding colonies to control foreign territories and to secure access to foreign goods. A number of these new settlements were founded in Syria and southern Anatolia, along the upper reaches of the Euphrates; they were almost identical in use of pottery, building tech-

niques, cylinder seals and numerical tablets, and plan of religious structures to what existed in southern Mesopotamia. These settlements were embedded in a sea of local Syrian cultures into which these new foundations intruded.

Though it was relatively easy to found such colonies in Syria and Anatolia, it was a different matter to maintain control of these areas so far from the southern Mesopotamian homeland. Several of the sites seemed to have lasted as little as fifty years, while others persisted into the early third millennium. At this time in the south, Mesopotamian city-states were engaged in the twin struggle for independence and dominion, and could have given little support to northern colonies, some of which may have been relatively independent. One result of this Uruk intrusion into Syria certainly was the spread of Mesopotamian languages and cultures into the area, the effects of which were felt in subsequent trends toward state formation in Syria in the middle of the third millennium and the use of the cuneiform script and Sumerian language at Ebla (modern Tell Mardikh). This late Uruk (early third millennium) interest in goods from the north was prefigured by millennia of contact between the regions. Later southern Mesopotamian attempts to control the north, or at least to dictate the flow of resources to the south, are represented by military invasions by Sargon of Akkad and Naram-Sin, and also by the campaigns of the Neo-Assyrian kings of the first half of the first millennium BCE. Most of the time Mesopotamian states were, however, far from powerful enough actually to control the flow of goods from the north and, as the Old Assyrian texts show, were able to engage in trade for them.

Old Assyrian Trade

Between the twentieth and eighteenth centuries, a remarkable series of documents from the Anatolian mounds of Kanesh (modern Kültepe) have revealed the details of the Old Assyrian trading system. (See "Kanesh" in Part 5, Vol. II, for details; the following remarks are provided only for the purposes of understanding the nature and varieties of Mesopotamian trade.) About three thousand tablets have been published, mainly from the time before Turkish ex-

cavations began at the site; perhaps another ten thousand texts have come from the Turkish project, but few of these have been published.

Karum Kanesh (the ancient name of the site) was the home of a permanent colony of Assyrian merchants who lived in a section of the larger Anatolian site of Kanesh. (*Kārum* literally means “dock” or “quai,” but came to mean “merchant quarter” because merchants brought their goods to the dock via rivers and canals; there they conducted their business and often lived.) The Assyrians arranged treaties with the Anatolian princes, and from the “mother colony” of Kanesh established about a dozen other colonies and some way stations. Long familiar with the existence of native Anatolian resources of obsidian, copper, and precious metals, Assyrian merchants focused their activities, as recorded in the economic documents and letters, on the acquisition of gold and silver, which were valuable in Assyria and used as standards of exchange.

By means of donkey caravans the Assyrian merchants transported large quantities of tin and textiles to Anatolia, which they traded for the precious metals. Mogens Trolle Larsen has calculated that in a fifty-year period one hundred thousand bolts of textiles and eighty tons of tin were transported. Some of the textiles were described as “Akkadian” and presumably were acquired from Babylonia by Assyrian merchants. The source of the tin is more mysterious, the best guess being Afghanistan. (Although new research shows the presence of tin in the Taurus Mountains of Anatolia, the texts clearly state that tin was brought to Anatolia. See the chapter “Mining and Metalwork in Ancient Western Asia” in Part 7, Vol. III.)

The trade was entrepreneurial. That is, Assyrian family firms, sometimes in partnerships so as to increase available capital and extend credit, did not profit from the monopolization of any resource; rather, they profited from the organizational know-how of getting goods where they were plentiful and exporting them to where they were scarce. For example, in Asshur, where silver was scarce, the silver-to-tin ratio was about 1 : 15, whereas in Anatolia, where silver was comparatively plentiful, the ratio was about 1 : 7. If fifteen units of tin could be economically transported from Asshur to Anatolia, two units of

silver could be obtained. These two units of silver could then be brought back to Asshur and turned into thirty units of tin. Assuming a constant demand, the knowledge of where and how to get tin, and the technology of how to move the tin to Anatolia, great profit could be and was made by the Assyrian merchants.

Profit was made in spite of the Assyrian merchants having to pay taxes to the Anatolian palace and to their own local political organization; Assyrians also had to pay imposts to hostile chieftains who controlled the mountain passes into Anatolia. Occasionally the merchants resorted to smuggling in order to evade the taxes to the Anatolian princes; even these details are recorded on the tablets bearing their accounts and letters.

The government in Asshur, headed by the king, was balanced by several councils “of the great and small.” A “city hall” served as an administrative center, and some of the more important merchants were clearly part of the Assyrian aristocracy. The government did not establish or organize or guarantee the trading ventures; it did, however, in one partnership document, “notarize” the thirty-year-long agreement to amass capital and extend credit to the partners. Presumably taxes were paid to the Assyrian state, but since most of the documentation is found in Anatolia and concerns that side of the trade, we have little information about such duties.

In the middle of the eighteenth century a new government, led by the foreign prince Shamshi-Adad, took power in Assyria, and a new centralization was occurring in Anatolia. Similarly, in Babylonia a new state under Hammurabi had formed. The result was that access to goods was *de facto* (if not *de jure*) cut off to Assyrian merchants and the Old Assyrian trading system collapsed.

Study of Old Assyrian trade has refuted notions of the economic historian Karl Polányi, who thought markets and entrepreneurial behavior did not exist in the ancient Near East. The remarkable Old Assyrian trade, based on the organizational ability of Assyrian merchants and yielding enormous profits, has forced reevaluation of the evolution of economic forms. Neither the venerable model of progressive stages from redistributive to market economies nor the

world-system theory of Emmanuel Wallerstein can account for the nature of the Old Assyrian system.

MAIN FEATURES OF THE MESOPOTAMIAN LOCAL ECONOMY

The most important item in the Mesopotamian economy in all periods was food, and most Mesopotamians were employed in the production, storage, and distribution of agricultural resources. In the south, farmers lived in cities and villages, and traveled to irrigated fields. Since irrigated fields lay fallow every second or third year, a land-tenure system of large holdings, especially owned by the great estates of temples and palaces, developed in the third millennium and allowed workers to shift among arable lands. These estates coexisted with land held privately, usually by extended family groups. In the north, especially in the Assyrian heartland, where dry farming could be practiced, villagers often owned lands in common in the mid second millennium, after which royal power progressively eroded these ancient rights. In all times and places the nature of agricultural production and the number of people engaged in it were dependent on the nature and degree of political centralization. Strong kings could and did tax lands, demand services, and appropriate land and people into the machinery of state.

Temples, Palaces, and the Community in the Third Millennium

Archaeological evidence beginning in the late Uruk period and textual data from the time just before Sargon of Akkad show the importance of temple estates in early Mesopotamian city-states. The gods needed to be fed and clothed (as ritual texts demonstrate), and temples owned large quantities of land, raised crops and animals, employed laborers in the fields and in workshops, and commissioned traders. The temple estates were manorial estates, functioning internally in a redistributive economic system but also interacting with elements of the population not part of its network. Some members

of the temple estate—cripples, orphans, and widows—were donated and these unfortunates became economic assets as they were set to work in the fields and in textile production. (See “Social and Economic Organization of Ancient Mesopotamian Temples” in Part 4, Vol. I.)

Arguments that the temple community encompassed all aspects of early Mesopotamian society within city-states were common until the 1970s, but more recent economic research has shown the existence of an equally flourishing palace estate as well as land held by private individuals and communities. Kingship emerged not from a prior temple-dominated city-state but alongside the temples. As a result of endemic warfare among city-states in the first half of the third millennium, over the best arable land and access to trade routes, kings gradually centralized their power, in some cases buying land from extended families. Those community members, however, were not necessarily removed from their traditional lands but became dependents of the crown and had to pay taxes and do service for the crown.

Since kings and the royal estate derived a measure of their legitimacy by depicting themselves as chosen and suckled by gods and goddesses, kings regularly (re)built and furnished temples. However, kings sought also to diminish the extent of temple estates and to place the temples under the control of the growing administrative apparatus of the state. Although temples resisted this process, powerful kings like Sargon could reshape ideological institutions by creating new sacral institutions and appointing priests (notably a new high priestess at Ur) to them. In the Ur III period, the vast bureaucratic state dominated all the economic affairs of the temples, in part by requiring levies of animals and products for the temples’ households.

A tension between “sacred” and “secular” great estates, the temple and palace households, remained an important characteristic throughout Mesopotamian history. Rulers governed by honoring the cultural values and traditions that were significantly in the hands of the temples. An important historiographic ideology, however, held that good kings—those who honored and enriched temples—ruled peacefully. Impious kings were abandoned by the gods, and for-

eign barbarians, agents of the gods, could be sent to bring down the ruling house.

At the end of the third millennium, from about 2100 to 2000, the Third Dynasty of Ur effected a degree of economic centralization that was unprecedented. Conquered territories, both in middle and southern Mesopotamia, and those more distant provinces were required to submit taxes to the Ur III state. A new settlement, Puzrish-Dagan (modern Drehem), was built in the time of Shulgi to receive the taxes, especially of animals destined for sacrificial use in the cult at Nippur. Puzrish-Dagan was staffed by new bureaucrats who accounted for the imposts, transferred them to holding pens, and directed them to kitchens. The tens of thousands of texts that detail these procedures and list various strata of bureaucrats also show the attempted monopolization of most areas of economic activity by the Ur III state. These policies of hypercentralization were resisted by the subject city-states and foreign territories, who were able to gain their freedom and topple the royal house of Ur.

Entrepreneurship in the Old Babylonian Period

In the vacuum of regional political control after the fall of the Ur III state, a new competition for rulership in city-states took place in the succeeding Old Babylonian period. By manipulating ties of ethnic solidarity, both within and among the city-states, the eventual winners in these struggles were Amorites, a people whose personal names were neither Sumerian nor Akkadian, but who left not a single document in their own language. Furthermore, the Amorites had not actually invaded, and they fought against other Amorites for kingship within city-states and for power of one city-state over others, in the traditional pattern of the third millennium. This absence of a centralized government in southern Mesopotamia and the ensuing competition for political power were accompanied by a fluidity of population movement and a series of profound economic changes.

One economic institution that grew in power, or continued in its old position, was the temple estate. From the Temple of Nanna at Ur, a

medium-sized city-state with a walled town encompassing about 140 acres (56 hectares) and with a population, including villages in the immediate hinterland, of about 65,000, a number of texts from the early second millennium show the scale of economic activity: individual tablets record deliveries of 36,750 gallons (140,000 liters) of barley, 50 tons of dates, 2,515 gallons (9,600 liters) of bitumen, and 18 tons of copper. Nevertheless, the most striking change in the Old Babylonian period, especially in the area around Babylon itself, concerns the amount of private enterprise recorded in the documents.

In the small city-state of Dilbat, a family archive reveals how a newly arrived citizen bought part of a house, probably with a local partner, and then proceeded to accumulate a large estate consisting of several neighboring houses and extensive fields of date palms. This new property, however, was subject to laws of partible inheritance, with each child receiving part of the estate. One heir began the process anew, buying out brothers and creating an even larger private family holding. These real estate purchases, however, which took place in the politically open environment of little centralization, ceased with the conquest of Dilbat by Babylonian kings and the creation of a new empire by Hammurabi. Members of the family became state bureaucrats rather than local entrepreneurs.

One of the problems that arose from partible inheritance was what to do with property that would pass to daughters of the newly rich families. Strictly speaking, they did not inherit property at the death of the father; rather, they received their inheritance as dowries they would transfer to the new family, including property that was, or would be, inherited by their husbands. In order to circumvent the alienation of property from the family estates, a new social and economic practice was established: consecrating daughters as *naditu* women.

Mostly very rich young women (including at least one princess), *naditus* were sent to live in *gagums*, the most famous of which was in Sippar. There, *naditus* worshipped the chief gods of Sippar, Shamash and Aya, and were maintained in part by donations from their brothers. The

gagum included managers, officials, scribes, laborers, and personal female slaves. There was a large ceremony and richly endowed festival upon the entrance of the *nadītu* into the *gagum*. As *nadītus* were forbidden to marry, early studies compared the *nadītu* institution of the Old Babylonian period to Roman Catholic practices: *nadītus* were called “nuns”; the *gagum*, a “cloister”; a leading *nadītu*, “abbess.”

Although the religious devotion of *nadītus* is undisputed and the *gagum* in Sippar was part of the temple complex of Shamash, it is the economic role of the institution that explains its character and its manifestation only in the Old Babylonian period. Upon entering the *gagum*, a *nadītu* received her dowry, which consisted of two main parts: immovable property, essentially real estate, and movable property, especially “ring money,” a coil of silver and other jewelry. The real estate was not actually owned by the *nadītu*, who had only usufruct of it, for it would pass to her brothers (or their descendants) at her death. Thus, a mechanism was found to keep new estates, which were subject to laws of partible inheritance, together.

With private, movable property *nadītus* engaged in a variety of business activities, especially buying, selling, and leasing of fields. These business gains, funded from their “ring money,” were fully disposable by *nadītus*. Some of the *nadītu*’s property might be willed to her brothers, but other property might be given to a faithful slave woman, who could be emancipated by the *nadītu*, on condition of keeping her in her old age and performing the appropriate burial rites. Many documents record the business activities of *nadītus*. Indeed, liberated from the responsibilities of being wives and mothers, they were the quintessential businesspeople of the Old Babylonian period.

As a footnote to this discussion of *nadītus*, it is evident, although based on only one text, that the prohibition against the marriage of *nadītus* was not necessarily a prohibition against sexual activity. The relevant text is in the form of a wet-nursing contract, wherein a woman is hired to suckle and provide for an infant for three years. The contractor is identified as a *nadītu*. Immediately upon birth of the infant, the babe is adopted by the brother of the *nadītu*. It is obvious that *nadītus* were forbidden to have legal

children, since they (or their fathers) could later raise claims to the landed property of the *nadītu* that was intended to remain in her natal family. The *nadītu* could maintain a relationship with the child, watch it grow up, and be assured that part of her property would pass to it as the adopted son of her brother.

The institution of *nadītu* women and the apparent unfettered economic activities of the early and middle Old Babylonian period changed with the conquests by Rim-Sin in southern Babylonia and of Hammurabi in the north, and with the eventual unification of the land by Hammurabi. Like others before him, Hammurabi sought to centralize the economy after his political victory. His policies were to channel wealth of the various city-states he controlled to Babylon, and he enlarged the royal bureaucracy to do so. These policies were resisted by the city-states, and the empire fell. Leadership was gained eventually by an ethnic group called Kassites, who ruled Babylonia for the next five hundred years.

Aspects of the Economy in First-Millennium Empires

In the fourteenth century BCE, Assyria, which had been under the domination of the Mitanni state, became independent and a new player in the web of regional states in Western Asia. As part of the process of liberation, the Assyrian king took on new powers and the importance of the army grew apace. Although traditional elites, who owned large estates and were officials in the Assyrian city assembly, did exist, gradually the Assyrian state claimed portions of the Assyrian countryside as state property, assigned land to bureaucrats and generals, and commanded goods and services from formerly autonomous villages. Toward the end of the second millennium and the tenth century BCE, this process was fitful, but the successful campaigns of kings in the first millennium changed both the political and the economic face of the empire.

Symbolic of these changes was the foundation of new capitals by Assyrian kings. Although the first of these was in the Middle Assyrian period, when Tukulti-Ninurta established a new capital across the river from Asshur, the practice is most important under the Neo-Assyrian kings. The

successful campaigns of Assurnasirpal into Anatolia and to the Mediterranean brought back enormous tribute to Assyria. Presumably further to centralize his control of the bureaucracy and to reward his followers, Assurnasirpal established a new capital at Kalkhu (modern Nimrud), upriver from Asshur. According to his account, he settled 16,000 people there and inaugurated the new capital with a banquet for 47,000 guests. He fed them for ten days on 1,000 head of cattle, 1,000 calves, 10,000 sheep, 15,000 lambs, 25,000 fowl, 10,000 jars of beer, 10,000 skins of wine, and equally large amounts of bread, fruit, vegetables, and nuts.

A century and a half later Sargon II, who defeated Israel and deported the “ten lost tribes,” erected his new capital at Dur-Sharrukin (modern Khorsabad). This capital similarly reflected a change in Assyrian government, which now had made conquered territories into provinces and ruled Babylonia (or attempted to do so). These policies of imperial administration required intensified agricultural production to support the new bureaucrats. Some of the labor came from deported populations. New estates created in the Assyrian heartland and in the provinces were given to Assyrian generals and high bureaucrats. The old-line Assyrian elites were thus effectively eliminated as the military government dictated rural agricultural policy. People working on the estates were non-Assyrians, as the Assyrian economy became progressively dependent on military victories, not only for tribute but also for control of local populations in Assyria. The army consisted largely of those levied in the conquered provinces. When the Assyrian army was finally vanquished in 614–610, there was no possibility for any Assyrian renaissance. Not only was the traditional elite removed from land and power, but the population of Assyria had little interest in Assyrian culture or even the Assyrian language. The collapse of Assyria was rapid, and since there was no social and economic infrastructure, the Assyrians having removed it in favor of a more effective military and governmental machine, it was irrevocable.

After the conquest by Cyrus the Great of Persia (539), Babylonia was never again independent and no rulers of Mesopotamia considered themselves Mesopotamian. Economic institu-

tions responded to this situation of imperial control and Babylonians could profit from the rule of the Achaemenians.

Hundreds of documents relating the business affairs of the firm of Murashu come from the second half of the fifth century BCE. During this period large parcels of land were assigned by the Persian rulers to military elites and to soldiers. The firm of Murashu leased some of this land, sublet sections to tenants, supplied agricultural tools and materials, and sold agricultural produce for silver. (See the chapter “Private Commerce and Banking in Achaemenid Babylon,” later in this volume.)

The gigantic Persian regime was weakly centralized, and Murashu could profit through a system of commercialized agriculture. By supplying implements to large estates and credit to small farmers, the firm, which was dependent on outside patronage, was supported by the crown. However, the firm could also become a threat to the stability of the system of royal land grants, and eventually the crown withdrew its patronage, putting the firm out of business.

CONCLUSION

Although the Mesopotamian economy changed enormously from the time of the first written records to the conquest by Alexander the Great in 332, some basic economic facts and processes can be discerned.

First, the unequal distribution of resources underlay the interaction between the north and south. In the south there was an absence of wood and stone for building, of utilitarian and precious metals, and initially of animals and plants that became the basis for the agricultural economy. These plants and animals were first domesticated in the north, where timber, stone, and access to metals were plentiful. In the south, however, there was alluvial soil, brought down by the Tigris and Euphrates, and there was access to water from the slow-moving streams. Irrigated land provided bountiful harvests of grains, surplus to support profound divisions of labor so that workers could be channeled into craft industries (especially textiles) and their products shipped to distant regions for the resources that southern Mesopotamia lacked.

At the end of the fourth and beginning of the third millennia the Mesopotamian countryside was shaped by the process of urbanization/ruralization. In the large city-states dependent workers on the great estates of temples and palaces supplied produce both for internal consumption and for exchange. In the countryside nearby villages became parts of city-states that were vying for the best land and water, but some land was owned in traditional ways. More distant from the city-states and in less fertile areas, nomads or villagers who were nomadic for part of the year tended flocks and were inclined to resist control by city-states.

As part of a trend toward political centralization in the third millennium, the Mesopotamian great estates required service from various elements of the population, binding some of them to the land and paying them in rations. Foreign trade was encouraged by capitalizing long-distance ventures, and agricultural resources came to be managed by bureaucrats rather than by local farmers. The highly stratified and specialized Mesopotamian economy, which produced vast surpluses of agricultural and manufactured goods, and which exerted a powerful demand for both utilitarian and status goods, became a kind of center in an economic center-periphery system in which practically all the rest of Western Asia was periphery.

For the trade of bulk items, certain accounting techniques were invented. First, time was standardized, the months becoming uniformly thirty days each within the lunar calendar (which necessitated occasional intercalary months being added). Next, a system of weights and measures was adopted, in part so that payments to dependent workers on the great estates could be reckoned, and in part to calculate the value of precious objects. The sexigesimal system became the standard of accounts, combining temporal reckoning and ration payments. Adult males received nine gallons (60 liters) of grain per month; women, children, and slaves got less.

Silver became the measure of equivalent value and a means of payment, in short functioning as money. Furthermore, loans were made by the great estates, especially by temples, to private individuals and interest was calculated on those loans. One shekel of silver (one-sixtieth of a mina) had to be paid as interest on the loan of

one mina per month. On an annual basis, then, twelve shekels of silver (20 percent) was the interest due on such loans. In fact, most such loans served to indebt the borrower to the great estates, and the debtors offered their services in place of silver payments. Land was also leased to sharecroppers, who had to pay part of the crop to the great estate. In such fashion former community citizens were made into dependent workers.

The products of these laborers—the huge agricultural surpluses and textiles fabricated from the enormous herds of sheep and goats owned by temples and palaces—were consigned to merchants, who transported them to foreign lands, usually for luxury goods. Thus, local production was often intended to enrich the elites of the great estates, not for consumption by the local populace.

With the breakdown of the Ur III highly centralized state, entrepreneurial behavior and long-distance trade flourished in the early second millennium, in the Old Assyrian and Old Babylonian periods. After 1600 BCE, however, when the development of regional states in Babylonia and Assyria occurred in fits and starts, other states in Western Asia were also developing and the centrality of Mesopotamia was challenged. Although in the first millennium, the Assyrian Empire attempted a regionwide political (and thus economic) control, more powerful forces eventually submerged it. Mesopotamian firms coped with non-Mesopotamian imperial organizations, but in the Seleucid and later eras, Mesopotamian business, like Mesopotamian culture and language, became progressively limited to the temples, their estates, and their diminishing number of dependents.

BIBLIOGRAPHY

Collections of Essays on Various Periods

ALFONSO ARCHI, ed., *Circulation of Goods in Non-Palatial Contexts in the Ancient Near East* (1984); IGOR MIKHAILOVICH DIAKONOFF, ed., *Ancient Mesopotamia* (1969; repr. 1982); DIETZ OTTO EDZARD, ed., *Gesellschaftsklassen im alten Zweistromland und in den angrenzenden Gebieten* (1972); MCGUIRE GIBSON and ROBERT D. BIGGS, eds., *The Organization of*

Power: Aspects of Bureaucracy in the Ancient Near East (1987); JANOS HARMATTA and G. KOMOROĆZY, eds., *Wirtschaft und Gesellschaft im alten Zweistromland* (1976); HORST KLENGEL, ed., *Beiträge zur sozialen Struktur des alten Vorderasien* (1971); EDUARD LIPIŃSKI, *State and Temple Economy in the Ancient Near East* (1979); MARVIN A. POWELL, ed., *Labor in the Ancient Near East* (1987); C. ZACCAGNINI, *Production and Consumption in the Ancient Near East* (1989). See also *Bulletin on Sumerian Agriculture* (1984–).

Early Periods Through Third Millennium

IGOR MIKHAILOVICH DIAKONOFF, “Main Features of the Economy in the Monarchies of Ancient Western Asia,” in *Third International Conference of Economic History, Munich, 1965* (1969), “Slaves, Helots, and Serfs in Early Antiquity,” in *Wirtschaft und Gesellschaft im alten Zweistromland*, edited by JANOS HARMATTA and G. KOMOROĆZY (1976), and “The Structure of Near Eastern Society Before the Middle of the Second Millennium B.C.,” *Oikumene* (1982); I. J. GELB, “The Ancient Mesopotamian Ration System,” *Journal of Near Eastern Studies* 24, no. 3 (1965), “On the Alleged Temple and State Economies in Ancient Mesopotamia,” in *Studi in onore di Edoardo Volterra*, vol. 6 (1989), and “Household and Family in Early Mesopotamia,” in *State and Temple Economy in the Ancient Near East*, edited by EDUARD LIPIŃSKI (1979); PIOTR STEINKELLER, “The Administrative and Economic Organization of the Ur III State: The Core and the Periphery,” in *The Organization of Power: Aspects of Bureacracy in the Ancient Near East*, edited by MCGUIRE GIBSON and ROBERT D. BIGGS (1987).

Old Assyrian Period

MOGENS TROLLE LARSEN, *The Old Assyrian City-State and Its Colonies* (1976), and “Partnerships in the Old

Assyrian Trade,” *Iraq* (1977); K. R. VEENHOF, “Kanish, *kārum*,” in *Reallexikon der Assyriologie* (1980).

Old Babylonian Period

DOMINIQUE CHARPIN, “Marchands du palais et marchands du temple à la fin de la I^{ère} dynastie de Babylone,” *Journal asiatique* 270, no. 1–2 (1982); R. HARRIS, “The Naditu Woman,” in *Studies Presented to A. Leo Oppenheim*, edited by J. A. BRINKMAN (1964); HORST KLENGEL, *Handel und Händler im alten Orient* (1979); W. F. LEEMANS, *The Old Babylonian Merchant* (1950), *Foreign Trade in the Old Babylonian Period* (1960), and “Old Babylonian Letters and Economic History,” *Journal of the Economic and Social History of the Orient* 11, no. 2 (1968); JOHANNES RENGEL, “Patterns of Non-Institutional Trade and Non-Commercial Exchange in Ancient Mesopotamia at the Beginning of the Second Millennium B.C.,” in *Circulation of Goods in Non-Palatial Contexts in the Ancient Near East*, edited by ALFONSO ARCHI (1984); E. STONE, “Economic Crisis and Social Upheaval in Old Babylonian Nippur,” in *Mountains and Lowlands: Essays in the Archaeology of Greater Mesopotamia*, edited by LOUIS D. LEVINE and T. CUYLER YOUNG, JR. (1977); NORMAN YOFFEE, *The Economic Role of the Crown in the Old Babylonian Period* (1977).

First Millennium

MUHAMMAD A. DANDAMAYEV, *Slavery in Babylonia*, rev. ed., translated by Victoria Powell, edited by MARVIN A. POWELL and DAVID B. WEISBERG (1984); J. N. POSTGATE, “The Economic Structure of the Assyrian Empire,” in *Power and Propaganda: A Symposium on Ancient Empires*, edited by MOGENS TROLLE LARSEN (1979); M. STOLPER, *Entrepreneurs and Empire* (1985).

SEE ALSO **The Economy of Ancient Egypt** (Part 6, Vol. III); **Methods of Exchange and Coinage in Western Asia** (Part 6, Vol. III); and various essays in **PART 5: HISTORY AND CULTURE** (Vol. II).

Overland Trade Routes in Ancient Western Asia

MICHAEL C. ASTOUR

MILITARY PLANS ARE INFLUENCED BY various factors, economic, political, or tactical in character. Even so, the determining considerations have their ultimate basis in the physical features of the areas; troop movements are largely regulated by topography, even as the growth of civilization and the pattern of population distribution conform to the direction in which rivers flow and the way in which goods are transported to markets at least cost. (S. L. A. Marshall, The American Heritage History of World War I [1966], p. 64)

GENERAL CHARACTERISTICS

Land Transport

The words of the military historian quoted above apply to the ancient Near East as well as to the twentieth century. Almost all of the ancient near eastern written source material referring to itineraries comes from royal archives and is predominantly of military character. (One notable exception is the private correspondence of Old Assyrian merchants residing in Cappadocia.) But this material sometimes contains information on transportation of goods and journeys of merchants or diplomatic envoys (who were often the same persons), and they confirm that armies and caravans used essentially the same routes. They also show that the principal arteries of communication remained largely unchanged through the centuries. It is thus possible, when

at least some of the transit points can be located on the map, to restore the entire route by using the data of physical geography and of more-detailed itineraries from a later age.

The roads of the ancient Near East were unpaved (with a very few, small-scale exceptions in the last century of the Neo-Assyrian Empire). Nevertheless, they had to be staked out, leveled, and—at least in the case of those intended for wheeled transport—maintained in good repair. Kings, who boasted in their inscriptions of building temples, palaces, canals, and fortifications, seldom mentioned road construction (except for cutting or widening mountain roads); that is because, as is known from infrequent mentions in juridical documents, roadwork was one of the duties of the local populations. The roads had landmarks, which were referred to in literature. Thus Gilgamesh asks, “Which is the road to Ut-

napishtim, what are its landmarks?" and the *Maqlû* conjurations speak of an angry ghost who removes the landmarks and causes the traveler to go astray.

Travel in summer was often done at night. For security reasons, merchants usually formed joint caravans. In mountains and deserts, it was often necessary to hire guides and armed escorts. The trace taken by a road depended on the locations of watering places, food supply, mountain passes, river fords, or ferries. The emergence of a new political center could deflect some roads in its direction as long as it remained prominent.

In Babylonia and Assyria, the unit of road distance was called *bēru*—literally, "double hour"—meaning the stretch that could be covered in two hours of our time system. As a linear measure, the *bēru* was defined as a multiple of smaller units based on the cubit. Unfortunately, there were several official sizes of a cubit, hence more than one length of a *bēru*. Moreover, about 1100 BCE there appeared a new *bēru* equal to half of the old one (whatever it was), but the old and the new units were used interchangeably and without specification. Furthermore, the ancients did not have portable time-measuring instruments; their evaluations of the distance in *bēru* must, by necessity, have been only approximate, which limits for us the value of the not very numerous pieces of information we have regarding distance.

Goods could be carried by oxen-drawn wagons, donkey-drawn light carts, or pack donkeys. (Camels were not domesticated until about 1100.) It is believed that the invention of the wheel and its application to carrying loads by wagon instead of by sled took place in Sumer during the Uruk period. The construction of wagons was improved in the Early Dynastic period. The solid wheel was replaced by a spoked one, which revolved on the axle instead of along with it. The Vulture Stela of Eannatum of Lagash (modern Tell al-Hiba) depicts the use of a four-wheeled wagon as a battle vehicle.

In Babylonia, with its network of navigable rivers and canals, wagons were used only for short hauls—for example, to bring grain to local granaries. Farther north, on the Middle Euphrates, in Upper Mesopotamia, and in Syria, they played a greater role. The Ebla texts contain numerous references to wheels and to two-

wheeled, four-wheeled, and, strangely, three-wheeled wagons (with the third wheel perhaps a spare). We hear of a four-wheeled "house-wagon" of the queen (probably a covered wagon). In Mari (modern Tell Hariri) of the Middle Bronze Age, wagons were also used for transport of passengers, especially of high-ranking women.

But in general wagons were used for loads too bulky and heavy to be carried on donkeyback. Mari tablets speak of wagon transport of battering rams and siege towers, but most often they refer to timber. Wood for furniture, doors, windows, and other artifacts could come in relatively short cuts, but beams for royal palaces had to be as long as evergreen trees were tall. Such timber, if destined for Mari or Babylonia, had to be cut in the forests of Mount Amanus (in the modern Nur range), dragged to the Euphrates for at least 200 kilometers (120 miles), then tied into rafts and floated downstream. But if a hostile power controlled northern Syria and barred access to the Amanus (as happened during the reign of Shamshi-Adad I), then the timber had to be brought from the Anti-Lebanon, which necessitated a haul almost twice as long across the Syrian desert. In the case of Assyria, the delivery of timber from either location involved transporting the logs over the wide Euphrates and dragging them through the widest part of Mesopotamia for an additional 450–500 kilometers (270–300 miles).

The ability to carry such heavy and unwieldy loads as cedar, pine, and cypress logs for such distances over an uneven terrain speaks a great deal about the conditions and state of maintenance of ancient wagon roads. Even greater engineering skill was needed to build mountain roads fit for taking the timber down into the plain. The *Epic of Gilgamesh* says about the mythical guardian of the Cedar Mountain, "Where Khumbaba was wont to walk, a trail was set down, roads were straightened, the going was made good." Nebuchadnezzar (Nebuchadnezzar) II wrote about his road-building achievements in the Lebanon, "I cut through steep mountains, I split rocks, opened passages, constructed a straight road for the cedars."

But roads fit for wagons were few and far between. A vassal king in the eastern part of Upper Mesopotamia could not come to his suzerain in

Mari by the straight trail through the steppe because of rain and heavy load; instead he had to take a long, roundabout route by a major highway. In fifteenth-century Nuzi (modern Yorghun Tepe), a “wagon road” is referred to without specification, as though there was only one such road in the area. Long-distance traffic was usually conducted by means of packs carried by donkeys. Donkey caravans were able to follow the most primitive paths and the narrowest mountain trails. As W. W. Hallo has calculated from the distances between known points in an Old Babylonian itinerary (on which more below), the length of a daily stage of such a caravan was between 25 and 30 kilometers (15 to 20 miles). The load of an individual donkey, as attested by Old Assyrian texts, varied from 130 minas (65 kilograms, or 143 pounds) to 150 minas (75 kilograms, or 165 pounds).

Water Transport

As in all times, the cheapest way of carrying sizable quantities of goods was by water. Babylonia possessed the lower reaches of two great rivers, the Euphrates and the Tigris, and an elaborate network of primary and secondary canals navigable by riverboats of various sizes. The two great rivers provided interregional water connections for Babylonia: the Euphrates with northeastern Mesopotamia and northern Syria, the Tigris with Assyria and the upper Tigris basin. But the currents of both rivers above the alluvial plain were too fast to allow sailing upstream except by towing, which was expensive and was practiced only for especially important missions. It was much more economical to sail only one way, downstream, by dismountable crafts—round boats of rawhide stretched on a frame of osier, or rafts supported by inflated sheepskins—and to return by land.

Negotiating with the king of Mari, King Hammurabi of Babylon indicated the importance of the waterways in explaining his desire to control Id (modern Hit), a city famous for its bitumen wells: “Why do I desire Id? The strength of your country consists of donkeys and wagons, but the strength of this country consists of boats. It is on account of the bitumen [needed to make boats watertight] and the naphtha (liquid bitumen) that I desire this town” (cited from *Archives épistolaires de Mari*, I/2, no. 468).

THE SUMERIAN EXPANSION OF THE URUK PERIOD

The archaeological evidence from the explored Urukian and Uruk-related sites outside the birth area of the culture, and the characteristic pattern of their distribution, testify to the existence in the Uruk period (late fourth millennium BCE) of several of the most important trade routes of the ancient Near East, centuries before they are attested in written documentation. These connections fostered international trade and contributed to the economic and cultural development of the outlying regions. (See “The Development of Cities in Ancient Mesopotamia” in Part 3, Vol. I, and “Ancient Western Asia Before the Age of Empires” in Part 5, Vol. II.)

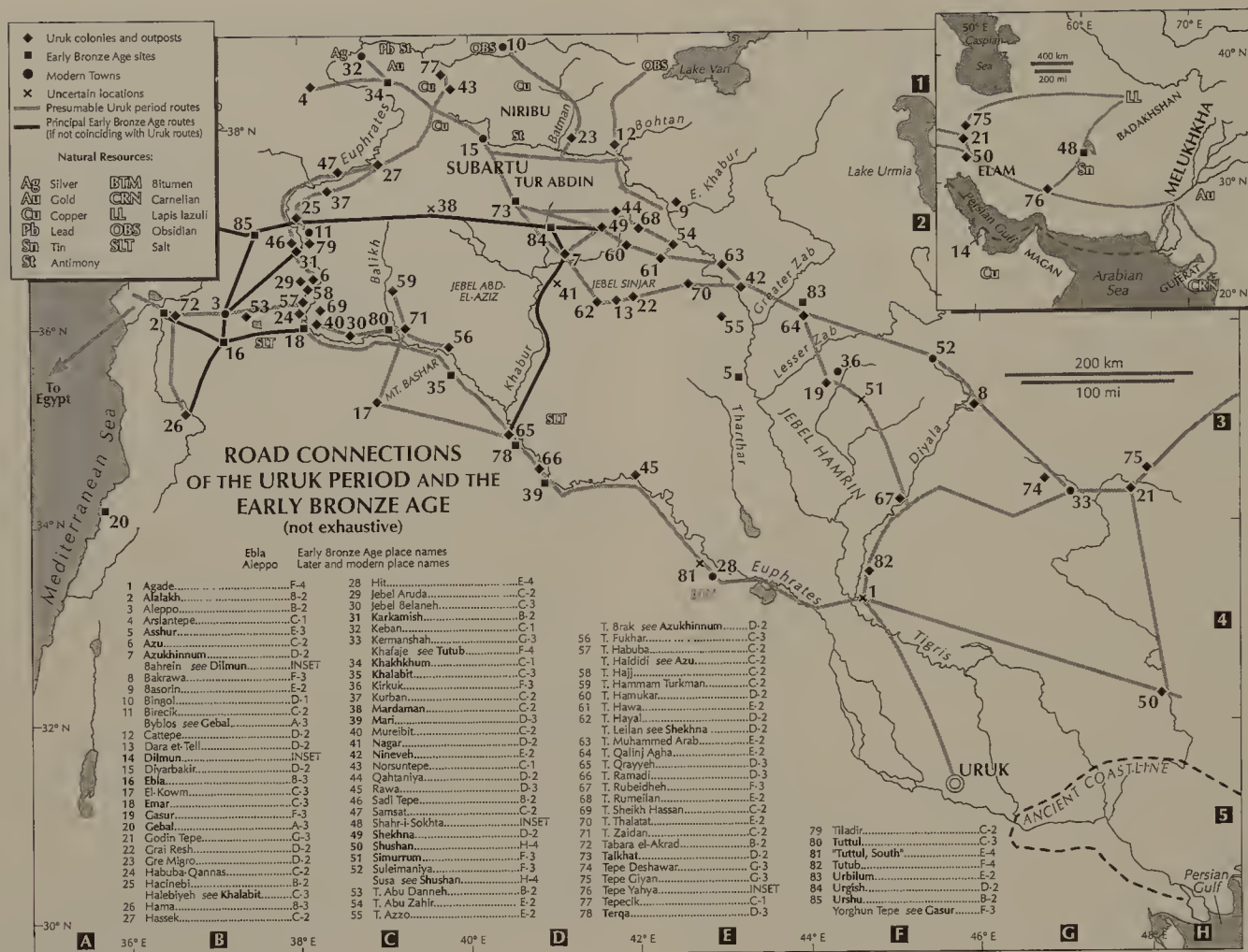
Routes into Iran

The Sumerians were drawn to the east by lapis lazuli, which was immensely popular throughout the ancient Near East and the Aegean. It was, and still is, mined only in a narrow area of Badakhshan in northeastern Afghanistan.

From the Late Ubaid period, a monopoly of lapis lazuli importation was held by Tepe Gawra (northeast of Nineveh). Its archaeologically attested contacts with the western Iranian sites of Tepe Giyan, Tepe Sialk, and Tepe Hissar point to a northern route across the Zagros Mountains to Sulaymaniya, Arba'il (modern Irbil), and Tepe Gawra.

But the Sumerians of the Late Uruk period shifted the lapis lazuli trade to the continuation of the Great Khorasan Road, which crossed the Zagros to the Diyala Valley and followed it south into Lower Mesopotamia. They also established a colony on the acropolis of Susa (biblical Shushan, modern Shush), where the southern Iranian trade route to northwestern India began. Its original purpose was to obtain carnelian, the only ancient source of which was the Gujarat Peninsula. The presence of Uruk pottery at Yahya Tepe, the most important caravan city on that road, reveals that city's links with Susa.

After about 3000 the so-called Proto-Elamites took over Susa, Godin Tepe, and other sites in Iran. These sites processed lapis lazuli and carnelian and produced decorated stone vases for export to Mesopotamia. One of the sites, Shahr-i-



Sokhte, was located near an important area of tin deposits. With the start of the Bronze Age, tin became a major object of international trade, and Elam controlled its supply for a long time afterward.

The Sumerian penetration of western Iran, though relatively brief, had far-reaching cultural consequences. The Sumerian "proto-literate" script induced the Proto-Elamites to devise a similar script of their own. Moreover, a long-lasting connection by land and sea was established between lower Mesopotamia and the Indus basin (which the Sumerians and Akkadians called Melukkha).

Upper Tigris Basin

A major Urukian colony was established at Nineveh (modern Tell Kuyunjik), with outposts at Tell Muhammad Arab to the northwest and Tell 'Azzo to the southwest and strong influence at Tepe Gawra. Another Urukian colony was built at Tell Qalinj Agha near the citadel mound of

Arba'il. The presence of Urukian settlements in the Diyala Valley and north of the Hamrin Range suggests that the principal route connecting Nineveh with the Sumerian south ran via the Diyala Valley, Arrapkha (modern Kirkuk), and Arba'il. It soon became, and still is, a major artery.

A string of Urukian settlements on the left bank of the Tigris, north of the current Iraqi-Turkish border, points to the upper reaches of the river and its tributaries, Bohtan and Batman. What attracted Urukian people to that remote area was its proximity to the sources of obsidian (volcanic glass) at Nemrut Dağ and Bingöl. Obsidian was highly valued as material for tools (especially razors) and for ornamental vessels.

The Altinova Area and Its Road Connections

A third area of great economic importance lay between the Taurus Mountains, the Upper Eu-

phrates, and the latter's tributary, the Arsanias (modern Murat Nehri) River. This area is the classical Sophene and Turkish Altinova, and it was very rich in metals. Foremost was copper (around the Ergani–Maden Pass and elsewhere in the Taurus); others were gold (from places near Kharput), silver, lead, and antimony (mined at Keban). No wonder that Urukian presence has been disclosed in its principal center, Norşuntepe (pronounced Norshuntepe), as well as the secondary sites of Tepecik (pronounced Tepejik) and Korucutepe (pronounced Korujutepe). Farther west, across the Euphrates, strong Urukian influence was detected at Arslantepe near Malatya (ancient Melid), a site with a long subsequent history.

The Altinova area was reached, in all eras, via the plains of northern Mesopotamia. Three lines of approach, which converged upon entering the Tur 'Abdin massif, are marked by the ruin mounds of major Urukian colonies. The southern route led from Nineveh westward to Grai Resh, Dara al-Tell, and Tell Hayal along the southern slope of the Jebel Sinjar, then turned northwestward to Tell Brak and continued to the foothills of the Tur 'Abdin west of modern Mardin. The middle road apparently started farther up the Tigris and ran through the Urukian colonies of Tell al-Hawa and Tell Hamukar and the Uruk-influenced Tell Leilan (ancient Shekhna; Shubat-Enlil). The northern road probably led from the Urukian settlements higher up the Tigris to Tell Rumailan and Qahtaniya and merged with the middle road. The joint road then followed the same trace, determined by the terrain, as that of its successors in all periods, going in an almost straight line northwestward to the Ergani–Maden Pass in the Taurus Mountains and down to the Altinova.

Syria and the Euphrates

A continuous chain of Urukian colonies and Uruk-related settlements extended on both banks of the great bend of the Euphrates, beginning with Hassek Höyük on the left bank and Samsat (classical Samosata) on the right. No traffic, either by water or by land, has ever been possible through the Euphrates Canyon across the Taurus. Therefore the reason for founding a colony at Hassek was not to maintain a connec-

tion with the upper basin of the river but rather to serve as the outlet of a road from the copper mines of Ergani–Maden for carrying the metal to northern Syria and down the Euphrates to Lower Mesopotamia. A road from Ergani, via Çermik (pronounced Chermik) and Siverek, to the Euphrates crossing near Hassek, is still in use. A secondary purpose may have been exploitation of the coniferous forests that covered the slopes of the Taurus at that time. Farther downstream ten medium and small Urukian sites existed near Birecik (pronounced Birejik). Carchemish (Karkamish) and three other major sites in its vicinity formed another cluster of Urukian colonies on both banks of the Euphrates. Still farther south stood the Urukian colonies of Jebel Aruda, Tell al-Hajj, Habuba al-Kabira North, and Habuba al-Kabira South—Tell Qannas on the right bank and Shams al-Din Tannira, Tell Tawi, and Tell Muraybit on the left.

The largest of these sites, Habuba al-Kabira South (Tell Qannas), was not an agricultural but a purely commercial community. Its importance lay in its being the terminus of a relatively even route from the evergreen forests of the southern Amanus Mountains to the Euphrates. The timber destined for the great public buildings of Sumer had to be floated down the Euphrates, a circumstance that speaks against the claims that the Euphrates route was not used in the Uruk period. Indeed, recent surveys of the middle Euphrates valley have revealed eight sites with Urukian pottery between Lake Assad and the Euphrates narrows and two sites below them. If no evidence of Urukian materials has been detected farther downstream, this may be due in part to the fact that only one sector of the valley, 120 kilometers (72 miles) in length, has been surveyed so far, and in part to the possibility that nearer home the Sumerians needed no special outposts.

Uruk's Link with Egypt

It has been suggested that a whole array of late Urukian artistic and technical features (including stimulus diffusion, or the borrowing of the general idea, of writing) made a sudden appearance in late Predynastic Egypt and survived until the early First Dynasty. At the same time, small quantities of lapis lazuli were imported

to Egypt. (See “Unification and Urbanization of Ancient Egypt” in Part 5, Vol. II.) The route by which these eastern elements reached Egypt remained a mystery until the discovery of Urukian colonies in northern Syria. It can now be seen that the Sumerian settlers who exploited the forests of the coastal Amanus range were able to construct seaworthy ships there and sail to Egypt. This would explain why no Urukian materials have been identified at intermediate sites of Syria and Palestine. It is also clear that the sudden end of Urukian influence and of imported lapis lazuli in early First Dynasty Egypt was caused by the collapse of the colonies in Syria at that very time, about 3000.

THE EARLY BRONZE AGE

The Early Dynastic Period

About 3000, the Late Uruk period in Lower Mesopotamia was followed, without a major break, by the Early Dynastic period. It was a time of numerous city-states, Sumerian-speaking in the south and Akkadian-speaking in the north, but sharing the same culture. One of its principal achievements was the creation, out of the Late Uruk rudiments, of a developed cuneiform script and its increasing use for records.

Many new urban centers arose at that time. A line of strongly fortified cities stretched across the steppe between the headwaters of the Khabur and the Balikh rivers, pointing to a route from the Khabur Triangle to Syria. On the Middle Euphrates, the Urukian sites of Qrayya and al-Ramadi ceded their places to the nearby cities of, respectively, Terqa (modern Tell 'Ashara) and Mari, both of which had a great future ahead. On the middle Tigris, the city of Asshur (modern Qalat Sharqat)—the nucleus of the Assyrian Empire of later ages—was founded in a semiarid area as a stage on the river road to Nineveh on the one hand and as the starting point of a diagonal route to the Sinjar area and the Khabur Triangle on the other. The alternate route to Nineveh and the north via the Diyala Valley, Kirkuk, and Arba'il was also used, as is clear from the fact that several cities along that route are attested as important centers in records of the following Sargonic period. The importation of lapis lazuli,

interrupted for a time after the collapse of Uruk's colonies in Iran, was resumed and reached its peak in the Early Dynastic III period. From that same time also comes ample written evidence on trade links among northern Syria, the Middle Euphrates, and Lower Mesopotamia.

Ebla and Mari

Ebla (modern Tell Mardikh), a large archaeological site in the interior of northern Syria, has yielded a palatial archive of many thousands of cuneiform tablets dating to the latter part of the Early Dynastic III period. They revealed that Ebla was at that time the capital of an empire in northern Syria and northwestern Mesopotamia that had close cultural and commercial ties with Mari, the leading power on the Middle Euphrates, and Kish (modern Tell Uhaimir and Tell Ingharra), the principal city of the Akkad region. The Euphrates route was the principal axis of Ebla's foreign relations and Mari by far its most important trade partner. The Eblean sector of the Euphrates was densely lined, on both banks, with directly or indirectly dependent cities, some of which—like Carchemish, Emar (modern Tell Meskene), Abatum (Tell Thadeyyen), Tuttul (Tell al-Biya'), and Halabit—have retained their importance. Mari tightly controlled Eblean navigation on its sector of the Euphrates. Ebla imported lapis lazuli from Mari and exported wool, woolen and linen clothes, various woods, oil, fragrant resins, wine, grain, and river boats. (Ebla is also discussed in its own chapter in Part 5, Vol. II.)

The other trade route known from the Ebla texts led eastward, across northern Mesopotamia, to the city of Nagar, which, from other evidence, was located a little east from the southern apex of the Khabur Triangle, and the nearby city of Kakkaban. The texts tell of eleven caravans (probably within one year) to (or from) the king of Nagar. No other international connections are mentioned in the Ebla texts—not because they did not exist, but in all probability because the archives found so far are heavily slanted toward the eastern possessions of Ebla and the neighboring states to the east and southeast.

The Sargonic Period

The Ebla archives ended a few decades before the forcible unification of Sumer and Akkad by

King Sargon the Great of Akkad, which was followed by a vigorous expansion to the east, north, and northwest. Trade interests and the acquisition of foreign goods by force went hand in hand with territorial aggrandizement. One of Sargon's inscriptions states that he had ships from Melukha (the Indus basin), Magan (Oman), and Dilmun (Bahrain) moor at the quay of his capital city, Agade, and that the god Dagan gave to Sargon the Upper Land—Mari, Yarmuti, and Ebla up to the Cedar Forest and the Silver Mountain. As the territories of Mari and Ebla bordered on each other, Yarmuti should be identified with the Khabur Triangle. From there Sargon proceeded westward, across the Euphrates, to the northernmost possessions of Ebla (though not to the city itself). The Cedar Forest, in this case, is probably the Amanus range (often called the Cedar Mountain), and the Silver Mountain must be the Cilician Taurus range. The names given to them by Sargon indicate the purpose of his march. (Sargon is discussed in "Kings of Akkad" in Part 5, Vol. II.)

Other inscriptions from Sargon's reign refer to his invasion of Elam, and there is a date formula "year (when) Sargon went to Simurru," a strategic city on the road to Nineveh via the Diyala Valley. The mention in Sargonic texts of such other places on the same road as Tutub (modern Khafaje), Eshnunna (Tell Asmar), Awal (Tell Sulaima), Lakhnum (later Lakhiru, near modern Sa'adiya), and Gazur (Nuzi, modern Yorghun Tepe) and in the next period of Madga (near Kifri), Arrapkhum (Arrapkha, modern Kirkuk), and Urbilum (Irbil), testify to the importance of that route for the kings of Akkad. So do the construction by Manishtushu of a temple at Nineveh and the accidental find at Bassetki, some ninety kilometers (fifty-four miles) north-northwest from that city, of the lower half of a large, inscribed copper statue of Naram-Sin. The same king's Louvre stela commemorates his victory over the Lullubi, a people of the high Zagros range who, as seen from the location of the slightly later rock relief of their king, Annubanini, controlled at that time the Great Khorasan Road.

Another arena of Naram-Sin's activities was the Khabur Triangle. He built for himself a palace at Tell Brak (possibly Azukhinnum of his and later records) and from there conducted

long-range expeditions. We can reconstruct one of them from indications in several of Naram-Sin's inscriptions, assisted by the recurrence of some of the place-names mentioned in subsequent cuneiform records and by a stela of Naram-Sin at a site twenty-six kilometers (sixteen miles) north-northeast from Diyarbakir (ancient Amida). He boasts of the conquest of the whole land of Subartu—"up to the Cedar Forest," according to one text; "up to the country and the cities beyond the Tigris," according to another. Subartu is here, as later, the northernmost part of Mesopotamia and the adjacent territory between the upper Tigris and the Taurus range that, in the Bronze Age, merited the appellation Cedar Forest.

Among the places on his route, one finds Tal-khatum (modern Tell Harzem, where the route from Tell Brak to the metal-rich Altinova enters the Tur 'Abdin massif), Nirrab or Niri[bu] (on the southern slope of the Taurus, near the pass from Hani to Palu and an ancient copper mine), Kharbak (at the foot of the copper-bearing Maden Dağı), Khakhun (the gold-rich Khakkhum of the rulers Gudea and Khattushili [Hattusilis] I), and Kharanum (the Old Assyrian copper emporium Kharana [modern Telharan], southeast of the Ergani-Maden Pass). Naram-Sin's route from the Tigris bend to Nirrab, marked by his stela, crossed an area that produced antimony, and the evergreens of the Taurus could easily be floated down the tributaries of the upper Tigris and on the Tigris itself to Nineveh or all the way to Akkad. Thus the purpose of Naram-Sin's expedition through a remote, difficult terrain becomes quite clear.

Another expedition led by Naram-Sin took him to Northern Syria. He defines his conquests there as "Amanus, the Cedar Mountain, and the Upper Sea" and "from the bank of the Euphrates up to Ulisum." This means that, besides cutting cedars on the eastern slope of Mount Amanus, he crossed the range (probably by the Beylan Pass) and reached the nearby Mediterranean Sea in the southeastern corner of Cilicia; there Ulisum (called there Uluzina) was located, according to an early fifteenth-century biographical inscription of King Idrimi of Alalakh (modern Tell Açana [pronounced Atchana]). Naram-Sin's intrusion into eastern Cilicia is confirmed by a stela from his reign on which the shape of the

captured vases and swords and the outfit of the prisoners of war point to a Cilician origin.

Gudea and the Third Dynasty of Ur

The Sargonic Empire broke apart under the blows inflicted on Naram-Sin's successor by the Gutians of the eastern mountains. Shortly before the reunification of Mesopotamia by the Third Dynasty of Ur, Gudea—the ruler of the Sumerian city of Lagash—enumerated in detail the places of origin of his building materials and metals. This information is important, because in the case of Gudea, we are dealing not with acquisitions by armed force but with peaceful trade, though the records do not state how he paid for his purchases.

From Amanus, the Cedar Mountain, Gudea brought cedar and boxwood logs, cut to specified lengths and formed into rafts. Handled in the same way were logs of pines, firs, and planes at Ursu (Urshu) in the mountains of Ebla. (This indicates that the political influence of Ebla still reached to the farthest north of Syria.) By means of riverboats, Gudea imported copper, bitumen, naphtha, gypsum, some kind of clay, and building stones from the land of Kimash and its cities Abulat and Madga (in the Kifri area, via the Diyala and the Tigris rivers); numerous blocks of stone from Mount Barme (via the Little Zab and the Tigris rivers); stones for stelae from Mount Basala (Jebel Bishri on the Middle Euphrates) and Mount Umanum (probably farther up the same river); and alabaster from Mount Tidanum (perhaps Jebel 'Abd al-'Aziz near the upper Khabur). He obtained silver "from its mountain," gold from the mountains of Khakkhum (in the placer mines of the Altinova), and marble from Mount Uringiraz on the Mediterranean. From overseas locations he obtained diorite for statues and timber from Magan; oakwood from Mount Kupin (also in Oman); *esi* wood (ebony?), carnelian, lapis lazuli, *nir* stones, tin, copper, and gold from Melukkha. Dilmun served as a transit point for some of the imported timber and copper. (See also "Distant Shores" later in this volume for a treatment of trade with South Asia and Northeast Africa.)

The abundant records of Ur's Third Dynasty (Ur III period) provide little new information on interregional trade routes. Military actions

and conquests under that dynasty were limited to the Transtigris. However, for some seventeen years (from year 47 of Shulgi to year 6 of Shu-Sin), Ur III claimed overlordship over Ebla, Urshu, Tuttul, Mugish, and "the country where cedars are cut" (Mount Amanus). All of them had formerly belonged to the Ebla Empire but now sent their separate messengers with symbolic gifts to Nippur (modern Nuffar).

Apparently this nominal dependence served the commercial interests of both sides. The interesting thing is that, along with representatives of north Syrian states, there appears—for the first time in cuneiform sources—the messenger of Gubla, the Phoenician city called Byblos by the Greeks (and now known as Jubayl), which was quite distant from the rest of the Syrian states in relations with Ur III but which had been closely connected with Egypt since at least the Second Dynasty. Thus an indirect link across inner Syria was established between Egypt and southern Mesopotamia, and, in addition to lapis lazuli, genuine Babylonian artifacts from the Isin-Larsa period made their way to the Tod treasure from Amenemhet (Ammenemes) II's reign. (See "The Middle Kingdom in Egypt" in Part 5, Vol. II.)

THE OLD ASSYRIAN ROUTES TO CAPPADOCIA

The Nature of Documentation

The end of the Ur III period coincides with the beginning of the Middle Bronze Age in Syria and Anatolia. At that point the extant documentation on interregional routes greatly increases in quantity and in geographical scope. A significant part of it derives from the abundant private archives of merchants, written in Old Assyrian dialect and found principally at Kanesh (modern Kültepe) near Kayseri (classical Caesarea) in east-central Anatolia. (See the chapter on Kanesh in Part 5, Vol. II.) They reveal in great detail the business practices of the Assyrian merchant-adventurers who opened up the vast expanses of Cappadocia for the trade of their city-state and founded permanent commercial colonies there. Their exports to the Cappadocian principalities consisted mainly of textiles and

tin, and their imports back to Asshur consisted primarily of copper. In their business reports, the merchants accounted, among other things, for travel expenses such as custom duties paid to the cities they traversed, lodging at inns, rental of donkeys and their drivers, and so on.

Nowhere does one find a complete description of the long itinerary between Asshur and the cities of Cappadocia, but several tablets list, in sequential order, places on different segments of the route (or routes). The problem consists in piecing the segments together, establishing whether they belong to the outbound or inbound leg of the journey, and locating as many of the places as possible. Here we are helped, to an extent, by the recurrence of many of the place-names in the cuneiform records of other Bronze Age cities, but their identification in the modern terrain often remains controversial. Students of the geographical aspect of the Cappadocian tablets have sometimes tried to string all places that occur in those texts along one single route, but the evidence contradicts this approach. I will present here, in an extremely condensed form, the result of my long investigation into the problem, which I believe, conforms to the documentary data.

The Route via Khakkhum

A frequently discussed passage of a Cappadocian tablet suggests that Kanesh could be reached from Asshur by at least two roads: "If you are afraid [to go] to Khakkhum go to Urshu. . . . Let the caravan of your brother be divided into three parts. Let the first one leave Mamma, and as soon as it reaches Kanesh, let the second one leave Urshu, and in the same way let the third one leave." The most plausible conclusions regarding the locations of these three cities place Khakkhum (Hittite *Khakkha*, Byzantine *Chachon*, now the Ulu-Ova mound) at the village Yukari Hoh in the Altin-ova, about eight kilometers (five miles) west of Lake Gölçik (Hazar Gölü); Urshu at Gaziantep, a provincial capital in the Turkish part of historical Syria; and Mamma north of the Taurus, probably at Göksun, the sphere of its influence bordering on that of Kanesh. It follows from the frequency of the mentions of Khakkhum that it stood on the more traveled of the two roads to Cappadocia.

The initial segment of the road led from Asshur northwestward to the Sinjar massif and was common to both routes and a third, auxiliary one. It passed through Saduatum (Tell al-Sa'diya), Razama South (Tell 'Abta), Abu Tiban (Tell Hadhayl), the important city of Qatara (the big Tell Khuwaysh), and Razama North (Tell Qsayba). Here the Khabur–Balikh road branched out westward, while the main road continued to Daragum (Khatuniya) and Uzuḫhinum (Azukhinnum of Naram-Sin and Mari records, identified with the big Tell Brak). From there it crossed the Khabur Triangle to the crossroads city of Nakhur (identified with Kızıltepe in the foothills of the Tur 'Abdin). Here the Assyrian caravans could turn west on the transversal road in the direction of Urshu and Mamma.

Like Naram-Sin's itinerary, the road to Khakkhum began its ascent of the Tur 'Abdin at Talkhatum (Tell Harzem), passed Burudum (Han Şeyhan) and Shimala (at, or near, Kaleizerzevan)—each of which had an Assyrian *ešertum* (a trade company of ten members)—and reached the major royal city of Nikhriya (Diyarbakir), which had an Assyrian *kārum* (autonomous colony). Thirty-three kilometers (twenty miles) to the northwest was Kharana, where a single Assyrian merchant purchased ten thousand minas (5 metric tons [5.5 short tons]) of copper. Twenty-one kilometers (thirteen miles) farther, the road reached the difficult Ergani–Maden Pass of the Taurus with its copper mines and smelters. We hear of a journey "from the middle of the mountain to Khazu," which appears in another Old Assyrian letter as a source of copper. Another producer of copper was Khaburata, connected not to the Khabur River but to "Khabur, the cedar mountain" of a Babylonian mountain list. A third place in the same area where copper was acquired was the land of Sawit (classical Soeita) on the other side of the pass.

Up to this point, the route basically coincided with the modern Mardin–Diyarbakir–Malatya highway. But instead of making a detour to the provincial capital Elaziğ (founded only in 1834) after reaching the Altinova Plain, it turned west-southwest to the Euphrates crossing at Kōmürhan. This road segment was dominated by the royal city Khakkhum. The Assyrians, who had a *kārum* there, purchased local fine textiles.

The further course of the route is indicated by the sequence Supana–Talpa–Tegarama. Supana (Hurrian Supaniun, Urartian Supani) corresponds to Sophene, the classical name of the Altinova; Talpa, according to a Hittite source, belonged to the district of Tegarama; and Tegarama, an important city in the Hittite and Neo-Assyrian periods, lay west of Malatya and may be identified with a mound near modern Akçadağ (pronounced Akchadag). The route continued into classical Cataonia, via Timilkia and Shalahshuwa, and entered the fertile plain of Elbistan with its principal city, Khurama (probably Karahüyük, the largest mound of the plain). From there it turned northwestward, crossed the Anti-Taurus range by one of its passes, and reached its destination, Kanesh.

The Route via Urshu and Mamma

This route separated itself from the Khakkhum road at Nakhur and ran westward across the northern Mesopotamian plain. The first city encountered was Elukhut (Viranşehir), the only site in the steppe east of Edessa (Urfa) with enough water for a significant population. Next was Admu, which, by the converging testimony of other sources, must be the exceptionally water-rich and fertile Urfa. The road continued to the Euphrates crossing, which in ancient times took place at the site of classical Zeugma (Belkis). At that site the Old Assyrian texts place Abrum on the left bank and Zaqaria (Neo-Assyrian Zuqarru) on the right. The next two recorded stops were Ashikhum and Khaqa, the geographical sequence of which is uncertain. They probably correspond to the sizable mounds of Turlu and Aril. Then came the major and historically important city of Urshu, the site of one of the three Old Assyrian *kārum*s (with Nikhriya and Khakkhum) outside of Anatolia.

From there the route turned northwestward on approximately the same trace as the modern road from Gaziantep to Maraş (pronounced Marash). Maraş may be equated with Unibgum, a station between Urshu and Mamma. Then the road went up the Taurus range and, after a long ascent to the Eyerbel Pass, came down to Mamma. A road linked Mamma with Lukhusattiya (Hittite Lawazantiya) in the Elbistan plain. The main route followed at first a northerly direc-

tion, then crossed the Anti-Taurus (perhaps by the same pass that was used by the route from Khakkhum) and came to Kanesh.

Alternate Routes

Through Mesopotamia

Two alternate routes taken by Old Assyrian traders allowed them to bypass or to skirt the Khabur Triangle and to rejoin the Urshu–Mamma route at points west of it. The more southerly of the two, which we may call the Khabur–Balikh road, can be pieced together from two unconnected segments that largely coincided with the “route of the nomads” of the Hellenistic-Roman period. It started at Razama North, went straight west, and must have crossed the Khabur, presumably near Tell Umtariya.

The first segment passed through the cities of Kaluzanum (still east of the Khabur, possibly Tell al-Han) and Adubazum (probably west of the Khabur; a likely site would be Tell Mu‘azzar). The road must have skirted the southern slope of the Jebel ‘Abd al-‘Aziz hills. That is because the tablets relating to the second segment mention visits to three places. The first was Khabba, which, according to Mari texts and the Urbana-Yale itinerary (on which see more below), designated the low ridge of Tiwal al-‘Aba, between the Jebel ‘Abd al-‘Aziz and the middle Balikh River. The second site was Balikhum (usually equated with Tell Jidleh), at the source of that river. The third place was Sakhuldum, which, according to the Urbana-Yale itinerary, stood at about a third of the distance from Kharran (classical Carrhae, modern Haran) to Admu and may thus correspond to the large mound Parapara.

We may assume that the road from Balikhum continued to Admu and merged into the Urshu–Mamma road. For some reason it bypassed the ancient and important city of Kharran, which is never mentioned in the Cappadocian itineraries. A shortcut to the Euphrates crossing at Abrum and Zaqaria seems to be indicated by the sequence *Balikhim—Zaqaritim* in a tablet; such a road is attested as a segment of the so-called Parthian road. At all three places, the Assyrian traders purchased wool; at least some of them moved on to Anatolia, for in one tablet, the purchase of wool at Balikhum is followed by a similar deal at Lukhusattiya.

The alternate more northerly route, which we may call the Upper Khabur road, probably also originated at Razama North, but followed a generally northwestern direction. It crossed the Khabur at the same spot that was used in Mari, Neo-Assyrian, and Roman times and that I place at Tell Tunainir. It then followed the right bank of the Khabur to Shirun (one of the mounds near Haseke), to Buralum, which under Shamsi-Adad I was the center of a district that reached from Khabura to Razama North (it later appeared on a Roman road map as Birali, the first station after the source of the Khabur on the road to Singara), and to Khabura (Tell al-Fakhariyah), a city at the source of the Khabur.

Here the traveler had two options. He could continue in the same direction and reach Elukhut on the Urshu–Mamma road, or he could take a poorly documented track through the steppe, touch the border of Mardaman, and arrive at Admu farther west on the same principal road. Mardaman, a city often mentioned in records from Naram-Sin's time to the Middle Bronze Age but still not locatable on the map, was important enough as a trade center for an Old Assyrian merchant to bring thither two donkeyloads of tin.

Roads over Cappadocia

Kanesh was the principal locale of Old Assyrian traders in Cappadocia, but their activities were not limited to it. In Anatolia they had *kārum*s in seven other locations and lesser trade settlements, known as *wabartums*, in about ten places. Besides Khurama (with a *kārum*) and Mamma (with a *wabartum*), already cited, the locations of only three settlements have been determined closely enough: Burushkattum, plausibly equated with Acemhüyük (pronounced Ajemhuyuk), near Aksaray; Khattush, the future capital of the Hittite kingdom, Khattusha (modern Boğazköy); and Zalpa (İkiztepe), where the Kızıl Irmak empties into the Black Sea. Old Assyrian tablets have been found at Boğazköy and at Alişar (pronounced Alishar) Hüyük (identified with Amkuwa).

One may thus deduce the existence at that time of two major trade routes from Kanesh: northward to Zalpa, probably via Amkuwa and Khattush, though it is not possible to trace its

course in the terrain; and westward to Burushkattum on a route similar to the Roman and modern roads westward from Kayseri. Because all of the other numerous places mentioned in the Cappadocian tablets (some of them recurring in Hittite texts) are so difficult to place on the map, and because the various attempts to do it differ so widely, it is best to desist from trying it here. It is, however, interesting that some Cappadocian tablets speak of a *ḥarran sukinim*, which can be rendered, from the context, as “smugglers’ road,” a rugged and dangerous trail that branched out at Timilkia and was sometimes used by Assyrian traders to avoid paying custom duties or as a shortcut to Zalpa.

OTHER MIDDLE AND LATE BRONZE AGE ROUTES

The Urbana-Yale Itinerary: Outbound

A highly important Old Babylonian document lists the stages and the duration of a journey from Larsa (modern Tell Senkereh) in southern Babylonia to Emar (Tell Meskene) on the Euphrates in northern Syria and back by a similar but not identical route. The round-trip is described on a damaged tablet, with a duplicate list of ten entries; both tablets are in the Oriental Museum of the University of Illinois at Urbana. The outbound road, beginning with the eleventh stage, is described on a well-preserved tablet in the Babylonian Collection of Yale University. The time of composition of the itinerary is determined by its mention of Shubat-Enlil (modern Tell Leilan), a city so renamed by Shamshi-Adad I and utterly destroyed in year 23 of Samsuiluna. Here we have the rare opportunity of using a long, continuous, and almost complete itinerary; eleven of its entries, because they are by now securely identified in the terrain, make it possible to find the approximate positions of numerous sites that had been known hitherto only by their names. Unfortunately, the document does not disclose the purpose of the long journey, which had an unusual, circuitous route; the composition of the traveling party; or the reasons for some of its lengthy stopovers. Our summary of the itinerary will, by necessity,

mention by name only the more important stations.

The first leg of the outbound journey was accomplished, as was normal for Babylonia, by water. The cities of Babylon and Sippar (modern Abu Habba) were reached by the ancient main course of the Euphrates and its Arakhtu branch. A canal joined Sippar, through the shallow 'Aqar Quf Lake, with the Zubi (Izubitum) Canal. The canal diverged from the Tigris at the northern edge of the alluvial plain and flowed more or less parallel to the old bed of the Tigris, providing a shorter and safer waterway to the middle Tigris. There, opposite the outlet of the canal, stood Mankisum. Sailing against the swift current of the Tigris was impossible from there on, so "the crews were dismissed and the boats returned." The length of the first leg may be estimated as approximately 430 kilometers (260 miles) in fourteen stages of about 31 kilometers (19 miles).

The second outbound leg led in the same northerly direction but by land, along the left bank of the Tigris. It covered about 172 kilometers (103 miles) to the next fixed point, Asshur, in six stages. The stop noted as Asshur actually took place across the Tigris from that city. The next stop was at Ekallatum, the first capital of Shamshi-Adad I and the residence of his son Ishme-Dagan; its true position is revealed by the Yale tablet. At the next stopping point, Binanu, the route crossed to the opposite bank of the Tigris. It continued for two more stages up the river before abandoning it and thereby ending the second leg.

The direction of the third leg is indicated by its first and fifth stops: Apqum (or Apqum of Adad), which has been uncovered at Tell Abu Mariya, and Shubat-Enlil. The distance between them, about 120 kilometers (70 miles), was covered in four stages. The impermanence of the route taken by the travelers reflected the merely temporary importance of Shubat-Enlil; it was virtually discontinued after that city's destruction. Here, in contrast to the mere overnight stops at Asshur and Ekallatum, the party stayed for three days. The route then continued westward, across the Khabur Triangle and the arid steppe by the shortest possible line to the old city of Kharran, famous for its temple of the moon-god. This stretch of about 220 kilometers (130 miles) required seven stops, the first two of

which, Shuna and Ashnakkum (frequently mentioned city-states under the suzerainty of Mari), probably correspond to the archaeological sites of Tulul Muhammad and Chagar Bazar. One of the two overnight stops in the desert was spent in the open country. The third leg ended at Kharran.

The route now turned sharply to the south. The first stop was at Apqum sha Balikha ("the source of the Balikh"), identified with Tell Jidleh, a short distance from the spring pool of the river. Next was Sakhlala (the very large Tell Sahlan), Zalpakh (the equally large Tell Hammam al-Turkman), Serdi (not yet identified with a specific site), and, finally, Tuttul, renowned throughout the Bronze Age for its temple of Dagan. It was located, by precise documentary data, on the Balikh near its confluence with the Euphrates, and has recently been securely identified with Tell al-Biya' by finds made there. Here the fourth leg ended.

The fifth and last outbound leg began with the crossing of the Euphrates just south of Tuttul and a westward turn on a segment of the great highway along the right bank of the Euphrates. Its destination was the river port of Emar, which at that time belonged to the kingdom of Yamkhad (with its capital at Halab [modern Aleppo]) and served as its commercial outlet to the states on the middle and lower Euphrates. The stretch of about 115 kilometers (70 miles) from Tuttul to Emar was covered, on the outbound journey, in five stages; but only one city, Abattum (32 kilometers from Tuttul), is mentioned by name; the other stops are nameless camping sites "on the bank of the Euphrates." The last stop before Emar may have been a border point where, according to a possible understanding of an annotation in the text, a new armed escort was assigned to the traveling party. The final stop, Emar, has been located at Tell Meskene by a Late Bronze archive excavated there. The total duration of the outbound journey is correctly summed up in the Yale tablet as two months and twenty-seven days.

The Urbana-Yale Itinerary: Inbound

One would expect that such a long journey was undertaken in order to conduct important business at its destination, but in fact the stopover at Emar is described as lasting only one day (or rather one night). Also the travelers did not

return to Larsa by the shortest and easiest way, down the Euphrates; rather they essentially retraced their outbound journey, except that detours made it longer. The first leg, to Tuttul, was accomplished this time in four stages instead of five. In the second leg, up the Balikh, the stop between Tuttul and Zalpakh took place at Akhuna (identified with Tell Sam'an Misak) instead of at Serdi. More significantly, the second leg did not end at Kharran but continued north-northwestward, in short stages, to Sakhulda (which we have met on an Old Assyrian route), Sakhuldum (Neo-Assyrian Khuzirina, uncovered at Sultantepe), and Admu (another Old Assyrian station, which I have placed at Urfa). It was only at this important crossroads that the route turned eastward.

The general direction of the third inbound leg was determined by its rejoining the outbound route at Alan in the Khabur Triangle. It does not coincide with either of the Old Assyrian routes from Admu, either the one to Elukhut and Nakhur, or the one to Khabura and Buralum. Its eight intermediate stops are difficult to pinpoint. If the conjectural track on the map deviates somewhat from a conventional straight line, it is because of my hypothetical identifications of its first three stations, the substantiation of which would require too much space.

Having rejoined the outbound route, the traveling party did not simply retrace it on its fourth inbound leg. After spending ten days at Ashnakkum, they did not proceed directly to Shuna but went first to Urgish, the mythical residence of the Hurrian god Kumarbi. Urgish is believed to correspond to Tell Mozan, which forms an isosceles triangle with the assumed sites of Ashnakkum and Shuna (22.5 kilometers [13.5 miles] from each). From Urgish the travelers came to Shuna and stayed there for the inordinate period of twenty-six days. It appears that they bided their time at Ashnakkum and Shuna because something was preventing their continuing to Shubat-Enlil. The delay may have been caused by an outbreak of hostilities around Shubat-Enlil, which, according to the Mari records, occurred quite frequently. Finally they were able to continue their journey and move on to Shubat-Enlil in two stages, with a stop at Kharsi (or Kharrusi), otherwise unknown; this probably involved no detour but simply cut the long (30 kilometer) stretch into two easier stages.

The travelers stayed at Shubat-Enlil for eight days and then followed the outbound route for only one long stage to Tarkhush. There they turned eastward and, in two stages, came to Lada. Both the distance and the fact that some of the stations of the next leg stood on the Tigris point to a similar location of Lada—roughly at present-day Tell Abu Zahir. The reason for this detour is clear: to reach the Tigris by the shortest road and to accomplish the remaining part of the return journey in the fastest and easiest way—by water.

The distance from Tell Abu Zahir to Baghdad by the Tigris is about 630 kilometers (380 miles). It was made in fourteen stages averaging 45 kilometers (27 miles) each. This is a low speed for loaded keleks sailing downstream, but it is plausible for the season of low water, which is when, according to the itinerary, the voyage took place (more specifically in August–September). The names of only the first six stations on the Tigris have been preserved, among them Zanipa, which had been visited on the outbound journey. But new data from Mari texts help to locate the following two stations: Adu, opposite Binanu, and Kamilkhu, between Ekallatum and Asshur. These locations are consistent with my estimate of an average daily sailing. It is not necessary to assume that the boats carrying the travelers again entered the Zubi Canal. Sailing downstream, it was faster to stay on the Tigris and take the short canal that connected Upi (in the Baghdad area) with the 'Aqar Quf Lake and hence also with Sippar and Babylon. (A recently published Ur III tablet from Eshnunna states that it was possible to go by boat from that city, via Upi, to Nippur on the main flow of the Euphrates.) From Sippar the party sailed back to Larsa by the same waterway it had taken, in the opposite direction, at the start of the journey (there was no other way); but this time the travelers moved faster, making it to Babylon in one day instead of two and going from there to Larsa in five days instead of seven. The duration of the entire journey, according to the Urbana tablet, was six months and fourteen days.

Principal Routes of the Mari Period

The routes considered in previous sections remained in use during the period of the Mari archives. In particular, the Euphrates road continued to be a heavily traveled artery connecting

Syria, Mari, and Babylonia. In addition, one should mention some of the principal routes attested in the Mari records.

"The great road along the near side of the Khabur," as it is referred to in an official letter, began at the confluence of the Khabur and the Euphrates and followed the Khabur up its eastern bank via the provincial capitals Saggaratum (Tell Abu Ha'it) and Qattunan (Tell Fadghami) to Tabatum (Tell Tunainir), where it bifurcated. A ferry service carried travelers and goods to the right bank, where the western branch coincided with an Old Assyrian route described above. The eastern branch skirted the volcanic Kaukab massif and led to Shubat-Enlil and other cities of the eastern Khabur Triangle.

At Qattunan the Khabur road was intersected by a west-east route leading from the confluence of the Balikh with the Euphrates to the Tigris at Nineveh. An oil-carrying donkey caravan from Emar went by the Euphrates road as far as Tuttul and there took the road to Qattunan across a long stretch of desert, where only the isolated ruin mound Khirbat Malha, inhabited in the Mari age, testifies to the existence of that route. The continuation of the road east of the Khabur passed through the important royal cities Qatara and Karana (Tell al-Rimah). It was by this road that Shamshi-Adad I ordered the delivery, by wagon transport, of a quantity of timber from Qattunan to Nineveh and Ekallatum.

The itinerary of the state visit to Khalab and Ugarit by Zimri-Lim, king of Mari, cannot be considered here in all of its complicated details. But it merits mention as a testimony of a major road from the upper Khabur (where the expedition actually started) across the steppe, the Balikh, and the Euphrates to northern Syria and on, via Halab and the Bdama Pass, to the great Mediterranean emporium Ugarit (modern Ras Shamra), whose name appears here for the first time in writing. The purpose of the royal journey was commercial as much as diplomatic. It is significant that, besides the courtesy gifts exchanged with local rulers, the principal commodity disbursed by Zimri-Lim's party and by a separate group of Mariote agents operating in north-central Syria was tin, some of it received in commission from the kings of Babylon and Elam. It is also worth noting that, while Zimri-Lim stayed at Ugarit, a quantity of tin was deliv-

ered to a group of merchants from Kaptara (Crete), who came with their own headman and interpreter.

According to Shamshi-Adad I's instruction to his son, Yasmakh-Addu, viceroy of Mari, the latter was to explore which of the three roads across the Syrian Desert to Qatna (modern Tell Mishrifeh) in central Syria was best fit for carrying an army of twenty thousand soldiers with donkeys, provisions, and a vanguard. These roads are also known from other Mari texts. The "lower road" started at Terqa (Tell 'Ashara) and the "middle road" began at Khalabit (Halabiya). No intermediate points are named and there are no known classical, medieval, or modern successors to the "middle road." It is possible that the "lower road" passed through Palmyra, but this is not confirmed by the two Mariote mentions of Tadmor, its Semitic name. However, the reception at Mari of a gift from a man of Nazala (former name of Qaryatayn, one hundred kilometers [sixty miles] southwest of Palmyra) may point to a direct road connecting Mari, Palmyra, and Nazala (the farthest southwestern point within the horizon of the Mari texts).

The "upper road" began at Abattum and was the shortest—but also the most remote—road to Qatna from the city of Mari. Its track must have been very close to the Roman road from nearby Sura to Emesa (modern Homs) via the water-rich oases of Resapha (Resafa) and Seriane (Isriya). Finally, there was a road from Emar southwestward that probably ended at the emplacement of Hama on the Orontes and intersected with the north-south highway from Khalab to Qatna. Princess Beltum of Qatna was brought to Mari by this itinerary to be married to Yasmakh-Addu. It offered the shortest crossing of the desert and the longest comfortable sailing down the Euphrates.

THE ROUTES OF SYRO-PALESTINE

Longitudinal Roads

Syria with its southern continuation, Palestine, played a great role in international trade because of its location between Anatolia to the north, Upper Mesopotamia to the east, Babylonia to

the southeast, Arabia to the south, Egypt to the southwest, and the islands and coasts of the Mediterranean Sea to the west. In addition to the transit trade, Syria imported raw materials and other goods from neighboring regions and exported its own products—timber, wool, olive oil, wine, dyed textiles, and artistic artifacts.

Syria's coastline, mountain ranges, and principal rivers are aligned in the north-south direction, which determined the configuration of its road network, basically consisting of longitudinal arteries connected, where the terrain allowed it, by transverse roads.

The western longitudinal route started at modern Maraş, at the foot of the Eyerbel Pass across the Taurus, which, as mentioned above, was used by Old Assyrian caravans to Cappadocia via Urshu and Mamma. But the road in question ran straight south, along the eastern slope of the Amanus range and the valley of the Karasu (ancient Saluara) River, and between the Amanus and the Lake of Antioch. It then crossed the Orontes, and bypassed from the east the coastal Casius massif. Thereafter the road approached the seacoast and followed it through the wealthy commercial and manufacturing city of Ugarit, which did not survive the destruction about 1200 by the Sea Peoples, and the more fortunate Aradus, Simyrra, Byblos, Berytus, Sidon, Tyre, and Acco.

The road then described a loop around Mount Carmel, came back to the coastal plain, and continued to Joppa (modern Jaffa), Gaza (where, in the first millennium, a caravan route branched off for Elath and western Arabia), Raphia (modern Rafa) and so to the entrance of Egypt. This artery, known in classical antiquity as *Via Maris*, was often used by Egyptian, Assyrian, Persian, and Hellenistic kings for moving troops, but, at least along its Phoenician sector, it was cheaper and faster to transport goods by sea.

A subsidiary road, which became important in the first millennium BCE, ran along the crest of the central and southern Palestine highland, thus avoiding the crossings of numerous transversal gorges. It connected the Jezreel Valley with the politically and religiously important sites of Shechem, Bethel, Jerusalem, Hebron, and Beersheba and ended at the junction of maritime and caravan routes at Elath.

The central longitudinal artery began south of

the Taurus with the merger of two roads from Anatolia: one from the already mentioned Eyerbel Pass, the other from Melitene via the Reshad-iyeh Pass. The joint route ran to the road junction of Urshu and then to Halab which, after 2000, dominated the junction of several important trade routes of northern Syria. From there the longitudinal artery continued south via Ebla and crossed the Orontes twice. Then having reached the area of modern Homs, it turned south-southwestward to Qidshu (Kadesh or Qadesh on the Orontes). Then it went on to the fertile and well-watered Beqa' Valley between the Lebanon and the Anti-Lebanon instead of crossing the long desert stretch between Homs and Damascus. (In the second millennium, Damascus was reached from the central Beqa', as it is now, by a road across the Anti-Lebanon.) It then entered Galilee and, in the Jezreel Valley, joined the *Via Maris*.

In the first millennium, when Damascus achieved a leading political and commercial position in Syria, a direct road was opened to the Homs area in the north and was extended to the south through the new states of the Transjordan all the way to Elath, the gateway to the lucrative trade with Arabia. (See "North Arabia in the First Millennium BCE" in Part 5, Vol. II.)

The central Syrian artery was flanked on both sides by shorter longitudinal roads. To the west, a road began on the lower Orontes near the site of ancient Alalakh (Tell Aḡana), where a transverse road to Aleppo was joined by a short road from the southernmost of the Amanus passes. It followed the Orontes south to Qal'at al-Mudīq (ancient Niya, later rebuilt as Apamea, one of the principal cities of Hellenistic Syria) and crossed the Orontes at its bend near the huge mound of 'Asharna. Then it ran along the eastern foothills of the Bargylus range (Jebel Ansariya) all the way to its southern edge. Having reached the broad valley of the Eleutherus River (Nahr al-Kabir), the road bifurcated. One branch ran southwestward and joined the *Via Maris* at Ul-laza (classical Orthosia); the other branch ran southeastward and joined the central artery at Qidshu. This road, which played a vital role for the Bronze Age kingdoms of Alalakh, Niya, Amurru, Qidshu, and other cities on its trace, was widely used in trade and war and remained important up to the Roman period.

The other road proceeded from Halab, keeping east of the central artery and of the Orontes, and led to Qatna, the leading city of central Syria in the Bronze Age. It joined the central artery in the area of Homs. After the decline and disappearance of Qatna, this road lost its importance, about the middle of the fourteenth century BCE.

Farther east, a north–south road ran along the western bank of the Euphrates, linking the towns at the principal crossings of the river (the foremost of which was Carchemish) as far south as Emar. There the Euphrates road turned eastward, but another road, as we have seen, led southwestward to the middle Orontes. This branch was discontinued after the destruction of Emar at the beginning of the twelfth century.

Transverse Routes

The northernmost road from west to east crossed the Amanus range from Cilicia by the Arslan Bel Pass. It ran down to a thickly settled area that included Khasshu (modern Tilmen Hüyük), an important royal city of the Middle and Late Bronze ages, and Sam'al (Zincirli [pronounced Zinjirli]), already visited by Old Assyrian merchants, which replaced Khasshu as the capital of the area in the first millennium. It then proceeded to another cluster of mounds in the plain of Sakça (pronounced Sakcha) Gözü, reached the road junction of Urshu, and continued to the Euphrates as a segment of one of the two principal Old Assyrian routes to Cappadocia. As was mentioned above in connection with Gudea's commercial activities, this road was used, aside from military purposes, for hauling timber from the Amanus range to the Euphrates, on which it was floated to Babylonia.

The next transverse route began at the mouth of the Orontes, which served as a harbor, went up the river to its crossing near Alalakh and its first-millennium successor, Kullani (Tayinat), and ran eastward to Halab, while a diagonal road to the northeast linked the lower Orontes Valley with Khazazu (A'zaz) on the central artery. At Halab the road divided. One branch led east, to the port city of Emar on the Euphrates. It was abandoned after the destruction of Emar and the disruption of international trade that followed the end of the Bronze Age, and was not restored until the early Byzantine period. The other branch, which ran northeastward to the Euphrates via the oasis of Nampigi (Mambidj, with a

connection from there to Carchemish), remained active and was the standard route of access from central and southern Syria to northern Mesopotamia in the Assyrian, Persian, Hellenistic, and Roman periods.

Farther south a road led from Ugarit northeastward to the only usable passage across the Bargylus chain (the Bdama Pass), crossed the Orontes at Jisr al-Shughr, traversed in a curving line the hills of Jebel Zawiya, and merged with the transverse road to Aleppo. We do not hear about this route in the Assyrian period, but when Laodicea (now Latakia) took over the role of Ugarit, it became an important part of the road network of Seleucid Syria.

Omitting a few short links of secondary importance, we come to the gateway to central Syria from the Phoenician seacoast through the valley of the Eleutherus between the longitudinal ranges of the Bargylus and the Lebanon. In pre-classical and classical times, the road curved southeastward to its junction with the central artery at Qidshu on the Orontes (Laodicea ad Libanum), but there are reasons to suppose that another spur joined the central artery near Homs, as nowadays.

Damascus, a great center of caravan trade, was connected with its principal maritime partners, Sidon and Tyre, by a route across the Anti-Lebanon and the Lebanon that made two ninety-degree turns in the Beqa' Valley. Another route led from Damascus to the southwest, crossing the Golan Heights and Galilee and joining the Via Maris in the Jezreel Valley. That valley, located between the hill areas of Galilee and Samaria, also provided an easy connection between the coastal plain and Transjordan. Another, more southerly, transverse road led from Joppa up the Judean hills to Jerusalem, then went down to the Jordan Valley via the oasis of Jericho, and finally forded the Jordan a little above its mouth into the Dead Sea. Lastly, one of the roads that converged at Elath came from Egypt across the Sinai Peninsula.

THE ROAD SYSTEM OF THE ASSYRIAN EMPIRE

The Neo-Assyrian Empire (ninth–seventh centuries) added little to the roads it inherited in con-

quered regions. A few of these, it seems, were even discontinued, like the long segment of the Euphrates road between the usual Assyrian crossing at Til Barsip (modern Tell Aḥmar) and the confluence of the Khabur. But the Assyrian takeover brought a major change in the management of the roads. The Assyrians created the first huge, well-administered, and highly centralized empire in history, far exceeding in its extent the earlier great powers. Its maintenance required the speedy delivery of dispatches to and from the capital and the rapid movement of troops against internal and external enemies. For this to be possible, good repair of the roads and precise knowledge of their terrain and distances were vital. The entire road network of the empire was integrated and put under the control of the central government. (For more information, see “Assyrian Rule of Conquered Territory in Ancient Western Asia” in Part 5, Vol. II.)

The principal roads were referred to as royal roads. From casual references in official letters and legal documents, one learns about royal roads in Assyria proper, in Assyrian-occupied Babylonia, in the Khabur Triangle, and on the left bank of the lower Khabur. The best-documented royal road led from Assyria proper to the area of modern Sulaymaniya in the Zagros. The royal road in the Transjordan mentioned in the biblical book of Numbers is the highway from Damascus to Elath. Road stations were built along the royal roads, both as resting places for troops on the march and civilian travelers and as waystations in the delivery of royal mail. “People at the road stations pass my letters to each other and bring them to the king, my lord,” wrote a royal correspondent. This means that a regular postal service by mounted couriers, with relays at every road station, functioned in the Assyrian Empire. (See “Messengers and Ambassadors in Ancient Western Asia” later in this volume.)

The roads were measured with great precision not only in *bēru* (assumed to equal 10.7 kilometers [6.4 miles]) but also in its subdivisions: *šūši* (one-thirtieth of a *bēru*, or about 360 meters [1,180 feet]); *ašlu* (a cord; one-hundred-eightieth of a *bēru*, or about 60 meters); and down to *gar* (one-tenth of an *ašlu*, or about 6 meters). Thus the distances on the royal roads were not rough estimates drawn from the approximate times of covering them, but accurate statements

based on actual measurements with surveyor’s cords of standard dimension.

In their efforts to control the Syrian and northwestern Arabian deserts and to profit from the caravan trade coming from Arabia Felix, the Assyrians paid much attention to acquiring and breeding large quantities of camels. They succeeded and achieved remarkably deep penetration of Arabia on difficult and poorly marked desert trails.

Kings Sargon II and Sennacherib had those segments of royal roads closest to their respective capitals, Dur-Sharrukin (Khorsabad) and Nineveh, paved with stone slabs and supplied with roadside stelae as milestones. This practice was subsequently discontinued until the Romans applied it, on an immensely greater scale, to their own imperial road network.

THE PERSIAN ROYAL ROADS

The Persians succeeded the Assyrians as the unifiers of the Near East some sixty to seventy-five years after the fall of the Assyrian Empire. Despite this gap the new Persian Empire followed Assyria’s road management practices. Writing with admiration about the royal road from Sardis to Susa, Herodotus said, “All along it are royal stages and excellent inns, and the whole of it passes through an inhabited and safe country.” Elsewhere he wrote,

Nothing mortal travels as fast as these Persian messengers. . . . These men will not be hindered . . . either by snow, or rain, or heat, or by the darkness of night. The first rider delivers his dispatch to the second, and the second passes it to the third, and so it is borne from hand to hand along the whole line.

Herodotus considered this service “a Persian invention,” but we know now that it—along with the road stations with inns—was taken over from the Assyrians. What the Persians added to their road system was a feature noted by Xenophon, who had traveled extensively over the Persian Empire: palaces surrounded by parks, where kings or satraps could comfortably reside during their journeys or inspection tours. Such palaces and parks are attested at several points along major routes of the empire in Asia Minor,

Syria, Mesopotamia, Assyria, and Babylonia; they often bore Persian names and remained on the map of the Near East well into the Roman epoch.

The Persian royal roads (but not the secondary ones) were carefully measured in *parasangs*. According to the best evidence, there were two kinds of *parasangs*: one for horsemen who rode at an unhurried gait, equal to four Roman miles, or 5.94 kilometers (3.68 miles), and the other for those marching on foot, equal to three Roman miles, or 4.455 kilometers (about 2.76 miles). But what made the Persian royal roads special was their sheer size and the skill with which they were integrated into one huge network and provided with all needed amenities and means of security.

An example is the famous and much-discussed road that linked Sardis, the capital of the southeastern Anatolian satrapy, with the royal capital of Susa in the heartland of the empire. A summary description of it was given by Herodotus, but the document on which it was based had reached him in poor condition, with gaps and misplaced fragments. Herodotus's account lists the regions traversed and the rivers crossed by the road, along with the numbers of road stations and *parasangs* in each region, but it provides no cities or towns except the first and the last. The total number of stations is given by Herodotus as 111 and that of *parasangs* as 450, but 30 stations and 137 *parasangs*, corresponding to the stretch through northern Mesopotamia, Assyria, and northern Babylonia, are not accounted for, nor are these regions mentioned. Hence the considerable divergence of opinion among scholars of the nineteenth and twentieth centuries in reconstructing the trace of the road.

It is nevertheless possible to reach a realistic conclusion by utilizing a number of sources. One is the detailed description of King Xerxes's route to Sardis across western Anatolia in 480, which Herodotus gave elsewhere in his work. Another consists of Xenophon's description of some segments of his march up country with the mercenaries of Cyrus the Younger in 401. A further source is the specific data on the "common road constantly used by all who travel from Ephesus toward the east" provided by the second-century traveler and geographer Artemidorus of Ephesus and transmitted, up to the road's junction

with the Euphrates, by Strabo. Finally, information on the Transtigridian segment of the road is contained in a fifth-century Persian document (in Aramaic) and in extant histories of Alexander the Great.

The road from Sardis ran to the southeast until it reached the valley of the Maeander (modern Menderes) River and merged with the great commercial route that led up the river from Ephesus on the Aegean Sea. That city owed its prosperity not to maritime trade but to its role as a natural gateway to the interior of Anatolia. The road continued through Caria and Phrygia up to Garsaura (modern Aksaray) on the border of Cappadocia, which had replaced the nearby Burushkhanda (Acemhöyük) of Old Assyrian and Old Hittite fame. Indeed, this very itinerary was used by the Hittite king Murshili II in his invasion of the kingdom of Arzawa in southwestern Anatolia, a campaign that ended at the coastal city of Apasha, identified with Ephesus. The next segment, between Garsaura and Mazaka (modern Kayseri), followed the same route that was traveled by the Old Assyrian merchants from Kanesh (nineteen kilometers [eleven miles] northeast of Kayseri) to Burushkhanda.

The continuation of the Persian royal road essentially coincided with the principal of the two Old Assyrian itineraries to Cappadocia—the one via Khakkhum, as described above. After it reached the northern Mesopotamian plain, it turned toward the Tigris via Nisibis (Assyrian Nasibina, Turkish Nusaybin) and crossed the river, apparently, at modern Fayshkhabur on the Syrian-Iraqi border. The incorporation of this segment into the royal road is explained by the disappearance of Nineveh and the decline of Assyria proper after the fall of the Assyrian Empire at the end of the seventh century. Now the road bypassed Nineveh and came to Arba'il (Arbela), the principal city of the region. From Arba'il on it coincided with the ancient road to Babylonia and Elam via Kirkuk and the Diyala Valley. There it intersected with the Great Khorasan Road; one could at that point turn southward to the Tigris crossing at Opis (Babylonian Upi, a little downstream from Baghdad) and so to Babylon, or continue on the no less ancient route to Susa.

The total length of the road from Sardis to Susa is given by Herodotus as 450 *parasangs* (those

measuring 5.94 kilometers), which amounts to 2,673 kilometers (1,664 miles). This is very close to the approximate length of the route as measured on modern maps. The excess of Herodotus's figure over the actual one may be explained by assuming that the 15.5 *parasangs* (92 kilometers) across Cilicia—not the region on the Mediterranean south of the Taurus but a subdivision of Cappadocia—were counted twice by Herodotus or his source.

Regular ferry service was provided on the rivers crossed by the royal road—the Euphrates, Tigris, Great Zab, Little Zab, Gyndes (modern Diyala), and Choaspes (modern Karkha). Because of the great political and strategic importance of this artery, it was guarded by garrisons recruited from Iranian tribes. Among the ancient place-names along the royal road, there are sixteen names of Old Iranian origin, some of which point to the existence of Iranian tribes in a non-Iranian linguistic milieu. Others are derived from terms of Zoroastrian religion and mythology, and still others are derived from natural features of the site or the presence of a royal lodge. They are especially close together in Cappadocia, and indeed that region remained strongly iranized until its annexation to the Roman Empire in the first century CE. In its policy of overland road communications, as in many other aspects of its culture and organization, the Persian Empire formed a transition in the Near East from the period of Assyrian domination to the Hellenistic and Roman eras.

BIBLIOGRAPHY

There are no comprehensive books on the roads of the ancient Near East, but many of the general works referred to in chapters on the history and economy of the region provide information on some of the roads and their geographical background.

General Characteristics

W. F. LEEMANS, *Foreign Trade in the Old Babylonian Period as Revealed by Texts from Southern Mesopotamia* (1960); and J. D. HAWKINS, ed., *Trade in the Ancient Near East: Papers Presented to the XXIII Rencontre assyriologique internationale, University of Birmingham, 5–9 July 1976* (1977). On wagons, see

ARMAS SALONEN, *Die Landfahrzeuge des alten Mesopotamien* (1951).

The Sumerian Expansion of the Uruk Period

Geographical data on Uruk-period sites outside of Sumer are provided in HARVEY WEISS and T. CUYLER YOUNG, JR., "The Merchants of Susa: Godin V and Plateau-Lowland Relations in the Late Fourth Millennium B.C.," *Iran: Journal of Persian Studies* 13 (1975); C. C. LAMBERG-KARLOVSKY, "The Proto-Elamites on the Iranian Plateau," *Antiquity* 52, no. 205 (1978); DIETRICH SÜRENHAGEN, "The Dry-Farming Belt: The Uruk Period and Subsequent Developments," in *The Origins of Cities in Dry-Farming Syria and Mesopotamia in the Third Millennium B.C.*, edited by HARVEY WEISS (1986); and GUILLERMO ALGAZE, "Habuba on the Tigris: Archaic Nineveh Reconsidered," *Journal of Near Eastern Studies* 45, no. 2 (1986), "A New Frontier: First Results of the Tigris-Euphrates Reconnaissance Project, 1988," *Journal of Near Eastern Studies* 48, no. 4 (1989), "The Uruk Expansion: Cross-Cultural Exchange in Early Mesopotamian Civilization," *Current Anthropology* 30, no. 5 (1989), and *The Uruk World System: The Dynamics of Early Mesopotamian Civilization* (1993). On lapis lazuli, see GEORGINA HERRMANN, "Lapis Lazuli: The Early Phases of Its Trade," *Iraq* 30, pt. 1 (1968). For Uruk influence upon Egypt, see HENRI FRANKFORT, *The Birth of Civilization in the Near East* (1950): 121–137; and JOAN CROWFOOT PAYNE, "Lapis Lazuli in Early Egypt," *Iraq* 30, pt. 1 (1968). On the recent discovery of Uruk-type artifacts in Lower Egypt, see P. R. S. MOOREY, "From Gulf to Delta in the Fourth Millennium BCE: The Syrian Connection," *Eretz-Israel* 21 (1990).

The Early Bronze Age

Articles in volume II of the present work quote general literature on this subject. Additionally, one should note the publication of texts relating to Naram-Sin's Subartu expedition in PIOTR MICHALOWSKI, "The Earliest Hurrian Toponymy: A New Sargonic Inscription," *Zeitschrift für Assyriologie* 76, no. 1 (1986).

The Old Assyrian Routes to Cappadocia

The notion of two roads to Kanesh, of which the Khakkhum road passed through Malatya, was first adumbrated by EMIN BILGIÇ, "Die Ortsnamen der 'kappadokischen' Urkunden im Rahmen der alten Sprachen Anatoliens," *Archiv für Orientforschung* 15 (1945–1951). DAVID OATES, *Studies in the Ancient History of Northern Iraq* (1968): 14, 35–36, provides a survey of mounds between Asshur and the Sinjar and their tentative identification with the Old Assyrians' stations on that segment of their route to Kanesh.

Other Middle and Late Bronze Age Routes

The Urbana tablet was published and commented on by ALBRECHT GOETZE, "An Old Babylonian Itinerary," *Journal of Cuneiform Studies* 7, no. 2 (1953). Doing similarly for the Yale tablet is WILLIAM W. HALLO, "The Road to Emar," *Journal of Cuneiform Studies* 18, no. 3 (1964). W. F. LEEMANS, "Old Babylonian Letters and Economic History: A Review Article with a Digression on Foreign Trade," *Journal of the Economic and Social History of the Orient* 11, pt. 2 (1968), states that the itinerary described by the Yale tablet was not a military expedition (as thought by Hallo) but a trade route.

Among the vast secondary literature on Mari, one should mention the following articles on specific routes: JACK M. SASSON, "Zimri-Lim Takes the Grand Tour," *Biblical Archaeologist* 47, no. 4 (1984); P. VILLARD, "Un Roi de Mari à Ugarit," *Ugarit-Forschungen* 18 (1986); JEAN-MARIE DURAND, "Documents pour l'histoire du royaume de Haute-Mésopotamie, I," *MARI* 5 (1989), "La Cité-État d'Imâr à l'époque des rois de Mari," *MARI* 6 (1990), and "Documents pour l'histoire du royaume de Haute-Mésopotamie, II," *MARI* 6 (1990).

The Routes of Syro-Palestine

The courses of the ancient routes of the region have been deduced from analysis of reports on Egyptian, Hittite, Assyrian, Persian, and Macedonian expeditions; local epigraphic documentation; Roman itineraries; and the traditional roads before the construction of modern hard-surface routes.

The Road System of the Assyrian Empire

The royal road from Assyria to the Zagros Mountains has been studied and reconstructed by EPHRAIM A.

SPEISER, "Southern Kurdistan in the Annals of Ashurnasirpal and Today," *Annual of the American Schools of Oriental Research* 8 (1926–1927). An inquiry into the same and other routes, with inscriptional material, was given by ERNST WEIDNER, "Assyrische Itinerare," *Archiv für Orientforschung* 21 (1966). See also D. O. EDZARD, "Itinerare," in *Reallexikon der Assyriologie*. A study of Assyrian routes in northern Mesopotamia is contained in KARLHEINZ KESSLER, *Untersuchungen zur historischen Topographie Nordmesopotamiens* (1980). Useful references can be found in ALBERT T. OLMSTEAD, *History of Assyria* (1923), 271, 334, 556.

The Persian Royal Roads

The sources for the royal road from Sardis to Susa is Herodotus 5.52–53, which must be taken in conjunction with his 1.72 and 7.72 (Matieni on the Halys River) and 7.26–32 (the route taken by Xerxes and his army from Cappadocia to Sardis). Xenophon's references to Persian roadside palaces and parks are in *Oeconomicus* 4.13 and *Anabasis* 1.4.10 and 2.4.14. His *Anabasis*, with its description of the itinerary of the Greek corps from Sardis to Babylonia and from there to Armenia, largely on royal roads (measured in pedestrian *parasangs*), is of great importance for our knowledge of the Persian road network. Artemidorus's "common road" from Ephesus to the east is summarized in Strabo 14.2.29. The Aramaic letter of Arsham, which enumerates stages on the Transtigridian segment of the royal road from Susa, is No. VI in GODFREY R. DRIVER, *Aramaic Documents of the Fifth Century B.C.* (1957). The secondary literature on Herodotus's royal road and Xenophon's itinerary is too vast to be listed here.

SEE ALSO Kanesh: An Assyrian Colony in Anatolia (Part 5, Vol. II) and The Economy of Ancient Western Asia (Part 6, Vol. III).

Sea and River Craft in the Ancient Near East

GEORGE F. BASS

THE GREAT RIVERS of the Fertile Crescent did more than nourish the crops of those who settled their banks. The Nile, the Tigris, and the Euphrates, with their tributaries and canals, served also as the major highways of Egypt and Mesopotamia. The people of these regions developed their own local types of river craft, but their sea-going ships were eventually influenced by the fleets of the Levantine coast and, perhaps, the Aegean.

RIVER CRAFT IN MESOPOTAMIA

River traffic in Mesopotamia was intense. At the time of the Third Dynasty of Ur, King Ibbi-Sin received a request for six hundred vessels to transport grain from Isin (modern Ishan Bahriyat) to Ur (Tell al-Muqayyar). Cuneiform tablets from the Old Babylonian period tell us not only of grain, but of cattle, fish, milk, vegetables, oil, fruit, wool, stone, bricks, leather, and people being transported over the network of canals, for which clay "canal maps" are still preserved. Commerce was not the sole purpose of river craft. During this same period, Kish (modern Tell al-Uhaimir, Tell Inghara) was threatened by an enemy fleet of 240 ships.

The importance of river and canal traffic is further indicated by the fact that at Lagash (Tell al-Hiba), a full tenth of the population of the

temple of Bau were boatmen, about 125 in all. These boatmen, including rowers and helmsmen, were freemen, but male and female slaves were assigned to crews and even belonged, at times, to the individual sailors, among whom were foreigners.

Traffic was rigidly controlled. Laws of right of way and salvage, as well as laws setting the rates for hiring boats and paying crews, date back at least to the first half of the second millennium. The famous *Code of Hammurabi* even established the amount a worker could charge for caulking a boat (law §234), adding that he would have to do it over at his own expense if the boat leaked within a year (law §235).

All of the types of river craft used on the Tigris and Euphrates for which we have evidence from depictions or models have continued in use until modern times. The simplest is an inflated animal skin capable of buoying a swimmer across a river. Under Shamshi-Adad of Assyria, at least, such skins were a normal part of a soldier's issue. At first, the neck and three legs of the hide were tied tightly, allowing the swimmer to blow from time to time into the open fourth leg to keep the float buoyant. After about 700 BCE, however, larger skins were used with all four legs tightly tied.

One inflated skin could support one person, but for heavier cargoes, from four to hundreds of skins were fastened together beneath a framework of poles and reeds to form a raft called in

Akkadian a *kalakku*, and called today in Arabic a *kelek*. These rafts were particularly suited to those parts of the rivers that had rapids and shallows, for the loss of some skins would not endanger the raft. After the cargo reached its destination, the *kelek* was taken apart, its wood sold, and its skins sent back upstream on donkeys.

A kind of coracle called today a *quffa* in Arabic is (and was) a round basket (Akkadian *quppu*). Ancient *quffas* are usually shown with from two to four rowers, which would make them small by modern standards; in this century *quffas* have carried cargoes weighing more than fifteen tons. There is another difference between modern and ancient *quffas*: in antiquity the wicker framework was covered with animal hides to make it watertight, whereas since the nineteenth century the basketry has been covered with bitumen for that purpose.

Reed boats, or rafts, were suitable for marshes. Made of reed bundles tied together, they probably became waterlogged in a matter of weeks or, at most, months. Some of them had peculiarly high and straight stems and sterns.

Models and reliefs of canoes show that they were propelled both by paddling and by punting (moving the canoe by means of a pole pushed against the bottom). They so resemble modern Mesopotamian marsh canoes that we must guess that they were similarly constructed of wood.

Although timber was scarce, plank-built boats, often made of imported wood, were not uncommon. We do not yet have archaeological evidence for their construction, but ambiguous documents describing their parts have been interpreted by some to mean that they were built in the ancient shell-first manner with mortise-and-tenon joints.

Boats built by the shell-first technique differ from most wooden boats in Europe and America, which are built today by the so-called skeleton-first method; that is, the builder lays down a heavy timber for a keel, to which he adds a stem, sternpost, and frames (commonly called ribs). This "skeleton" forms the shape of his vessel. To it he nails the planks that form a watertight hull.

In antiquity, however, the boatwright constructed the shell of his vessel first, without any interior framework. He cut a series of notches,

or mortises, along one side of the top of the keel and inserted into each mortise a hardwood tenon. He next cut a mirror-image series of mortises on the bottom edge of the first plank of the hull, and shoved this plank down onto the tenons protruding up from the keel. He repeated this procedure on the other side of the keel, and on each succeeding plank of the hull until it was completed. He often drilled through the top and bottom of each mortise-and-tenon joint and drove a peg through to prevent separation of the planks.

Wooden barges of great size are shown being towed from river banks during the Neo-Assyrian period; contemporary reliefs also show series of barges or boats serving as the pontoons for floating bridges.

Sailboats were not suitable for the Tigris and Euphrates, and though there is some indirect evidence for their use, they seem not to have been common there, partly because the wind blows roughly in the same direction as the currents of the rivers. This explains why watercraft were sometimes towed; cuneiform tablets tell us that it took sixteen or seventeen days to tow a barge upstream the eighty-five miles (137 kilometers) between Lagash and Nippur (modern Nuffar), about four times as long as it took to cover the same distance downstream.

RIVER CRAFT IN EGYPT

Paddled and punted reed-bundle rafts, as in Mesopotamia, were used on the Nile throughout antiquity, especially for fowling, hunting, and fishing in marshes. Even as early as Predynastic times, however, a sickle-shaped boat made of planks laced together with rope, rather than fastened by mortise-and-tenon joints, was developed.

The detailed appearance of early plank-built Nile boats has been revealed by the discovery and restoration of a Fourth Dynasty boat that had been disassembled and buried in a pit next to the pyramid of Khufu (Cheops) at Giza. This slender vessel (143 feet or 43.6 meters long, with a beam of 18.5 feet or 5.7 meters) had been built in the shell-first manner; its planks, of Lebanese cedar, were held together both with mortise-

and-tenon joints and with ropes laced through V-shaped mortises. Sixteen frames (ribs) were lashed to the inside of the hull. There was no keel. A boxlike cabin stood on deck.

Found in the pit with the boat were a dozen paddles with pointed blades shaped like spearheads, but it is uncertain if they were for propulsion, steering, or ceremony. As no mast was found, the boat may have been towed. If so, it was not unique.

The stone cover of a second pit by the pyramid of Khufu has been pierced to allow inspection of its contents via tiny cameras. Although the wood of the boat in this pit has not yet been studied firsthand, it seems that the hull was about the same size as the hull found in the first pit. The purpose of these boat burials is debated.

Scenes of boat building in the Fifth Dynasty tomb of Ti show clearly the steps by which Old Kingdom hulls were made. Felled trees were trimmed with single-bladed axes and adzes before they were sawn into planks. Workers cut mortises into the resultant planks with wooden-handled, narrow-bladed chisels. The planks were then lowered into place on the unfinished hull so that their mortises fitted over tenons protruding from the next lower planks, already installed. Once aligned, the new planks were pounded home by boatwrights using large, two-handled mauls. Meanwhile other wrights planed and trimmed the boat with adzes. Finally, stanchions were cut and put into place, and decorative features were carved into the completed hull.

Nile boats differed from those in Mesopotamia in other ways. Although there is indirect evidence of some sailboats on the Tigris and Euphrates, we know virtually nothing about them. In Egypt, however, the prevailing north wind led to the development in Predynastic times of sailboats that could sail upstream, against the current, and then return easily downriver under paddle or oar power.

Old Kingdom sailboats had tall masts, usually bipods, with tall, narrow sails, which appear to have tapered downward toward the deck, making them triangular or trapezoidal. The foot of the sail was attached to a boom. The masts were held in place by stays running both forward and aft, but were unstepped on voyages down the Nile. Coming downstream, these boats are

shown either being paddled, with their crews facing forward, or rowed, with the crews facing astern.

Middle Kingdom Nile boats are especially well known, both from models and from actual hulls. A set of models from the tomb of Meketre at Thebes, circa 2000 BCE, gives a realistic impression of the deceased nobleman's river fleet. A yellow boat for inspection trips was modeled both with sail raised to catch the wind, and with mast unstepped as the boat is rowed downstream. Its sail, with both an upper and a lower yard, is more square than the tall, narrow sails of the Old Kingdom. A vaulted cabin of cloth over a wooden framework could be moved forward and aft on the deck to suit the position of the mast and crew. The steering oar went directly over the stern and was worked with a tiller. When rowed, the boat had a crew of twenty-one, consisting of a captain, helmsman, lookout, and eighteen rowers.

In equal detail we can see Meketre's yacht; his sporting boat for harpooning fish and netting birds; a pair of paddled reed-bundle rafts between which fishermen pull their net through the water; and his kitchen boat, a small tender on which food for the fleet was prepared. (Jars of beer and wine, pieces of meat, and men baking bread make its function clear.) Written documents suggest that Nile boats, including naval vessels, obtained many of their provisions from riverbank vendors as they traveled.

Middle Kingdom models of funerary boats, with mummies on board, differ in shape and decoration from the more utilitarian boats.

Six actual funerary boats from this period, buried near the pyramid of Senwosret (Sesostris) III at Dahshur, were discovered in 1894. Four are now on display: two in the Egyptian Museum at Cairo, one in the Carnegie Museum of Natural History at Pittsburgh, and one in Chicago's Field Museum. All are about 33 feet (10 meters) long and 9 feet (2.7 meters) wide. They do not have keels. Their planks are fastened together with unpegged mortise-and-tenon joints; dovetail joints also occur, but there is some question whether these are ancient or the additions of modern restorers who worked about the turn of the century.

On New Kingdom river boats, the sails seem to continue the trend seen on Middle Kingdom



One of the six Egyptian funerary boats excavated near the pyramid of Senwosret III, Middle Kingdom. CARNEGIE MUSEUM OF NATURAL HISTORY, PITTSBURGH

boats, now being wider than they are tall. One papyrus roll of the time resembles a ship's log, giving us an idea of how the number of people on one boat varied from day to day between twenty-six and forty, suggesting that some were passengers. Another roll resembles a modern purser's accounts.

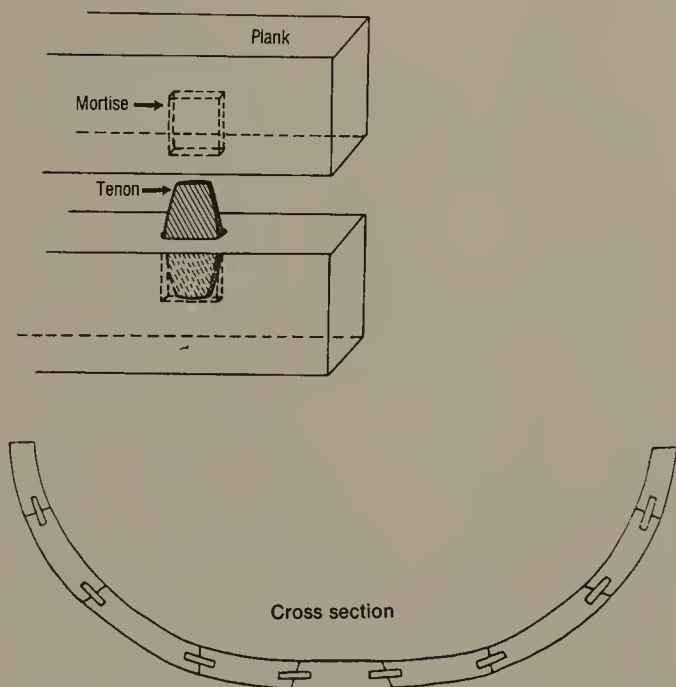


Diagram showing how planks were joined on the Egyptian funerary boats. The tenons joined the planks by locking them together with mortises. DIANA CRAIG PATCH AND CHERYL WARD HALDANE, *THE PHARAOH'S BOAT AT THE CARNEGIE* (1990)

Naval vessels on the Nile (or open sea) probably differed little, if any, from cargo craft, warships being nothing more than troop and cavalry transports.

As in Mesopotamia, there were regulations regarding watercraft. In the late Eighteenth Dynasty decree of Horemheb, for example, a man who steals a boat will have his nose cut off and will be sent to Tjaru (or Sile, a frontier post in the Delta).

As on the Tigris and Euphrates, towed vessels were not uncommon on the Nile. The most remarkable one was an immense barge built in the New Kingdom for Queen Hatshepsut (circa 1472–1458 BCE), in order to transport a pair of obelisks down the Nile from Aswan, where they were quarried, to Karnak, where one still stands. The obelisks weighed about 350 tons apiece, and stood nearly 100 feet (30 meters) high. The load required a remarkable carrier. Based on a relief carved at Dayr al-Bahri, it has been estimated that each of the barge's four steering oars, or quarter rudders, weighed four or five tons. Eight thick rope trusses ran from one end of the barge to the other to keep the ends from sagging. And 810 oarsmen in twenty-seven boats are shown towing this ancient "*Titanic*."

Clues to the construction of such a barge are provided by timbers of a freight boat or boats, fastened more rigidly than in other known Egyp-

tian hulls, that were buried around the pyramid of Senwosret I (early Twelfth Dynasty).

SEAGOING VESSELS

Mesopotamian seagoing ships as early as the third millennium BCE sailed to distant but unknown lands for raw materials, almost certainly including Harappan ports on the Arabian Sea. From a land called Dilmun (probably the island of Bahrain, which may have served as an exchange center in the Persian Gulf), they returned with gold, copper, lapis lazuli, ivory, and timber for the cities of Ur, Lagash, and Agade. Melukkha, perhaps somewhere in the Indus Valley, also supplied timber. Magan, another important destination for merchants, may have been somewhere in Oman. (See “Distant Shores: Ancient Near Eastern Trade with South Asia and Northeast Africa” in Part 6, Vol. III, for further discussion of shipping.)

As with river craft, not all seagoing ships were devoted to commerce. Near the end of the third millennium, the Akkadian king Shar-kali-sharri sent a naval force to conquer the islands and coasts of the Persian Gulf, on which Mesopotamia, so lacking in essential materials, was dependent.

In spite of the importance of Persian Gulf trade, and in spite of the fact that we have words denoting “large ship,” “short ship,” “wide cargo ship,” and the like, we have scant evidence for the actual appearance of the ships used. Crude depictions on seals found on the island Failaka, near the Delta, let us know that open-water vessels of the Old Babylonian period were sailed in the gulf, but little more.

Egyptian ships also sailed across open water. In the Mediterranean, they sailed especially to the land now known as Lebanon, probably as early as the Second Dynasty (circa 2700), to obtain cedar and other coniferous woods. An Egyptian crew on such a voyage during the Fourth Dynasty (circa 2500) left its name on an inscribed ax-head at Byblos (biblical Gebal, modern Jubayl).

From the subsequent Fifth Dynasty we have depictions of ships that sailed this route. Reliefs carved in the time of King Sahure record the

departure of a fleet and its return with Syrians, either as prisoners or, more likely, as crew. The type of mast used is the typical bipod, already seen on Old Kingdom Nile boats, which supported a tall, narrow sail. Unstepped masts were laid back to rest on high supports. Helmsmen worked sets of three steering oars, without tillers. We may recognize on deck a large stone anchor with a hole cut through its top for a hawser. What makes this ship differ from most river craft—Queen Hatshepsut’s great barge being a notable exception—is the huge rope, or hogging truss, that runs from one end of the ship to the other, supported on crutches, to prevent sagging of the stem and the stern as they passed over the troughs of waves. Additional support for the hull appears as a network of laced ropes that run the length of the hull’s exterior.

Two slightly later ships shown returning from Syria, in a relief from the time of Unas (Wenis), share many of these features. Their masts, however, are tripods rather than bipods. If the numerous Syrians on board were crew rather than prisoners, as on the ships of Sahure, we have more evidence of the great antiquity of Levantine sailors, so famed in later times.

We can only estimate the sizes of such ships. However, a cedar ship built in the Fourth Dynasty was said to be 100 cubits, or 172 feet (52.5 meters), long.

In the Red Sea, ships as early as the reign of Sahure sailed for Punt, famed for its myrrh. Punt probably lay on the Somali coast of east Africa. Such voyages seem not to have been uncommon. In the Sixth Dynasty (circa 2200), a helmsman named Khnumhotep left word in an inscription that he had made eleven round trips to that far-off land.

We have no evidence for the appearance of seagoing vessels in the Middle Kingdom, but the Punt trade (as well as that with Byblos) continued to be brisk. A mariner marooned on a Red Sea island, according to the admittedly fabulous tale of *The Shipwrecked Sailor*, was spotted and saved by the crew of another Egyptian ship within only four months. This ancient Robinson Crusoe’s lost vessel was about the same size as those which sailed to the Levant during the Old Kingdom: 180 feet (55 meters).

Such vessels, of course, had to be built on the shores of the Red Sea, so each voyage to Punt

began with an overland trek from the Nile along the Wadi Hammamat, whose walls bear graffiti of ships dating back to Predynastic times. At Mersa Gawasis, a Red Sea harbor used by Middle Kingdom ships that sailed to Punt and to the turquoise mines of the Sinai Peninsula, sailors left twelve large stone anchors, seven of them built into the platform for a stela. Fragments of cedar wood found here, cut with mortises, may be the rare remnants of a Red Sea ship.

Shipwrecks at this time are also recorded in the Persian Gulf, where merchants continued to sail for Dilmun to bring back copper, ivory, woolen clothing, leather, barley, and something called "fish eyes" that may have been pearls. The dangers were in fact so great that businessmen protected themselves from losses by not entering into full partnerships with these merchants, despite the consequent reduction in profits. Those who returned safely sometimes dedicated silver models of their ships to their gods in gratitude for their protection.

We are fortunate to have excellent representations of ships that sailed the Red Sea from the time of the New Kingdom in Egypt. The same reliefs at Dayr al-Bahri that inform us of the appearance of Hatshepsut's remarkable barge also depict a fleet of ships the energetic queen sent to Punt. By this time, the sails were extremely broad in relation to their heights and were attached to upper and lower yards on single masts; bipod masts seem not to have lasted beyond the Old Kingdom. Hogging trusses and giant quarter rudders continued in use, as might be expected. The scene is brought to life by the porters who carry exotica such as myrrh trees, gold, and ivory onto moored ships while other ships of the fleet arrive under oars, their sails already furled. Apes clamber along the hogging trusses, and a wide variety of marine creatures swim in the water below.

By the time of the New Kingdom, trade was widespread over the entire eastern Mediterranean—and beyond. Many clay tablets excavated at Amarna (Akhetaten) in Egypt preserve for us, in cuneiform writing, lists of goods sent by near eastern rulers to the pharaoh in Egypt, sometimes, at least, in their own ships. The same tablets inform us that Canaanite ships were used to supply food, water, and troops to coastal towns. Other tablets, from the major Syrian port

of Ugarit (modern Ras Shamra), tell us of seafaring activities, including the salvage of a cargo from a merchant ship that had "died"—as the text puts it—near Tyre in a torrential rain.

Tomb paintings, especially at Thebes, show us scenes of porters bearing tribute to the pharaoh from almost all points of the compass. Elephant tusks, logs of Egyptian ebony (African blackwood, *Dalbergia melanoxylon*), and leopard skins arrive from tropical Africa. Copper ingots, Canaanite amphoras filled with incense and other goods, canteenlike "pilgrim flasks," and elephant tusks are among the items of tribute brought by Syrians, and sometimes by men from a land called Keftiu, probably Crete. (See "Island Cultures: Crete, Thera, Cyprus, Rhodes, and Sardinia" in Part 6, Vol. III.)

We have already seen that sailors from Syria may have manned Egyptian ships as early as the Old Kingdom. That Syrian or Canaanite nautical skills were highly regarded in the eastern Mediterranean at the time of the New Kingdom is perhaps reflected by the large number of workers with Semitic names preserved in records from an Egyptian dockyard near Saqqara. Other contemporary documents suggest the numbers and sizes of Canaanite ships. In the thirteenth century, the king of Ugarit was asked to outfit a fleet of 150 ships. In the twelfth century the surprising size of at least some of these ships may be inferred from a request by the king of the Hittites to the king of Ugarit for a ship and crew to transport 2,000 measures of grain—estimated by some scholars to have weighed as much as 450 tons—in one or, at most, two trips.

We wish we knew more about the life of sailors, the length of the sailing season (something we do know from classical times), the durability of ships, their costs, and the size of the crews. At best, we can only estimate crew size from models, reliefs, and information from specific vessels. As far as we can tell, no navigational instruments were used other than sounding rods and probably also lines. Except from our Bronze Age shipwrecks, we do not know what kinds of food were carried on long voyages (and even from the shipwrecks we cannot always determine which foods were for shipboard meals and which were cargo).

In two tomb paintings, Egyptian artists have left for us rare glimpses of actual ships of



A nautical archaeologist attempts to excavate copper ingots from a Late Bronze Age shipwreck near Uluburun, Turkey; analysis of such artifacts may provide clues about the sailors' diet, the trade route used, the crew size, and a dating for the wreck. COURTESY OF DONALD A. FREY, INSTITUTE OF NAUTICAL ARCHAEOLOGY, TEXAS A&M UNIVERSITY, COLLEGE STATION

the Canaanites, the early Phoenicians. In the fifteenth-century tomb of Nebamun at Thebes, a bearded Syrian had just arrived by ship with a cargo that included copper ingots and Canaanite amphoras. The ship itself is poorly preserved, but we can make out a down-curving upper yard and a wicker fence above the cap rail to keep out waves.

In the fourteenth-century tomb of Qenamun, also at Thebes, a Syrian or Canaanite fleet is shown moored at an Egyptian quay, unloading its goods. Porters carry amphoras and what ar-

chaeologists call a "pilgrim flask" and a "spindle bottle" down the stepped gangway. On deck are large jars, some nearly as tall as a person. Syrian merchants and sailors wear round medallions at their necks. The depictions of their ships were well preserved at the time that they were recorded by archaeologists. The ships were steered by quarter rudders with tillers, and their sails were attached to both upper and lower yards, as on Egyptian ships; but in other respects they differed from the vessels of their host country. They, like the ships in the tomb of Nebamun, had wicker fences along their sides to keep out the waves (as did the nearly contemporaneous ship built by Odysseus to leave Calypso's island), they had crow's nests with lookouts in them, and they lacked the hogging trusses seen on Egyptian seagoing vessels.

That Syrian ships reached Egypt, and that Egyptian ships reached the Levant, is not surprising. Seafaring in the Levant is of great antiquity. The island of Cyprus was deliberately colonized about eight thousand years ago (neither humans nor domesticated animals could have survived and multiplied from sporadic, accidental crossings from the mainland), and humans may have been involved in the extinction of the pygmy hippopotamus there two millennia earlier than that.

During the period with which we are concerned, evidence of seagoing vessels comes first from second-millennium Byblos in the form of two ship models, and second from references to Syrian merchants taking goods to Caphtor, probably Crete.

By good fortune, a merchant ship of the same period as those depicted in the tomb of Qenamun, the fourteenth century, has been found and excavated off Uluburun, Turkey, a rugged peninsula near Kaş (pronounced Kash). The ship carried a cargo of raw materials, including more than 350 ingots of Cypriot copper (weighing about ten tons), a ton of tin ingots from unknown mines, more than a hundred ingots of cobalt-blue and turquoise glass, a ton of terebinthine resin in more than a hundred Canaanite amphoras, logs of ebony from Egypt, an elephant tusk and part of another, hippopotamus teeth, ostrich eggshells, tortoise shells, the doors of murex shells, an amphora full of orpiment (a pigment, yellow trisulfide of arsenic), and a variety of

fruit and spices, including figs, pomegranates, grapes, olives, safflower, and coriander. The four-handled copper ingots, laid like overlapping shingles from one side of the hull to the other, rested on dunnage of thorny burnet, a common near eastern bramble.

The hull was probably about fifty feet (fifteen meters) long. The keel plank (not a true keel) and hull were of fir, with mortise-and-tenon joints held together with oak pegs. On board were twenty-four stone anchors. Two of them were small, ovoid stones, of the size one might imagine being used for a ship's boat or as hawser sinkers; but the others were rectangular or slightly trapezoidal slabs in two approximate size groups, weighing perhaps from 121 to 208 kilograms (266 to 458 pounds), each with a single hawser hole near its top. Similar anchors are not known in the Aegean, but they are commonly found by divers along the entire coast of Israel, and there is some evidence from Tell Abu Hawam that they were manufactured on that coast. After their life at sea, it seems, they were often used as construction blocks in buildings in the Near East, as at Ugarit and Byblos, as well as at Kition (Roman Citium, possibly biblical Kittim), a Bronze Age port city on Cyprus; their frequent inclusion in temples and tombs suggests commemorative usage.

Although the Uluburun ship reminds us of the paintings of Syrian ships in the tombs of Nebamun and Qenamun, with Syrian pilgrim flasks, Canaanite amphoras, spindle bottles, large jars (called *pithoi*, singular *pithos*), and round gold medallions among its finds, just how hard it is to determine its nationality is shown by the broad geographical spread of other artifacts on board. Ceramic cargo containers come both from the Levant and from the Mycenaean world, but personal storage and drinking wares seem mostly Mycenaean. At least two of the *pithoi* carried Cypriot export pottery.

In another *pithos*, which contained whole pomegranates, was found an ivory-hinged wooden diptych (or folding writing tablet), on whose waxed inner faces someone once wrote with a stylus; none of the wax was preserved to reveal the writer's language. This is the earliest known writing diptych, the next oldest being from the end of the eighth century at Nimrud (ancient Kalkhu, biblical Calah) in Iraq. In that

case, the wax had been mixed with orpiment to give it the proper consistency. If the orpiment on the Uluburun wreck was intended for the same use, its quantity may suggest that diptychs were commonplace on the ship, as also suggested by the discovery of what seem to be hinges from two other diptychs.

The nature and dating of the Uluburun ship's last voyage were initially established by the discovery on the wreck of a unique gold scarab of Queen Nefertiti of Egypt, who died about 1340. It was later recognized, however, that the scarab lay near a small hoard of scrap jewelry, mostly Canaanite, of gold, electrum, and silver; if the scarab was part of this jeweler's hoard, it tells us only that the ship sank at some time after Nefertiti's death.

It still seems likely, however, that the ship was on a royal mission, for its cargo matches the largest shipments of copper recorded in the royal correspondence found at Amarna. The copper described in those letters was sent to Egypt by the king of a land called Alashiya, generally identified as Cyprus. We might then guess that the Uluburun ship was Cypriot, except that the only Cypriot ceramics on board were new export wares, carefully packed in *pithoi*, and not the pottery used by the merchants and crew.

Nor do the weapons on the Uluburun ship offer a clue to the ship's home port. Found scarcely a meter apart were Mycenaean and Canaanite swords, both of bronze. And Kassite, Mycenaean, Syrian, Egyptian, and Babylonian seals (the last recut by an Assyrian artisan) confuse rather than clarify the picture.

Whatever its nationality, the ship seems to have been traveling the well-known counterclockwise route—from Phoenicia to Egypt, by way of southern Crete—described by Homer, and seemingly confirmed by discoveries of Canaanite and Cypriot pottery at the southern port city of Kommos on Crete and at Marsa Matruh (Paraetonium) on the Mediterranean coast, some two hundred miles west of the Nile Delta.

Although Mycenaean (or Bronze Age Greek) ships are not among the foreign ships depicted in Egyptian tomb paintings, it was long believed by scholars that Mycenaean merchants held a virtual monopoly on maritime commerce in the eastern Mediterranean. This theory was based on the archaeological discovery of Mycenaean

pottery on Cyprus, along the length of the Syro-Palestinian coast, and in Egypt, similar quantities of near eastern pottery not having been found in Greece.

The Uluburun ship points out the danger of basing archaeological theories on negative evidence, for none of its cargo would have been recognized as near eastern in origin had it reached its destination; the raw materials would have been quickly manufactured into products typical of the culture that imported them.

How many such cargoes did reach their intended ports we can only guess. Analysis of the Uluburun glass ingots, for example, shows them to be chemically identical to the blue glass in bottles from Eighteenth Dynasty Egypt and in beads from Mycenaean Greece, suggesting that all of the Late Bronze Age blue glass in the eastern Mediterranean shared a single source, something not previously suspected, as glass ingots were previously unknown from this period.

Four-handled copper ingots like those on the Uluburun wreck have been excavated in Sardinia (where Late Bronze Age pottery like that on the Uluburun ship has also been found), Greece, and Cyprus. They have also been found off the coasts of Israel, Greece, and Bulgaria, giving some indication of the wide spread by sea of this necessary ingredient of bronze. But the only other Late Bronze Age shipwreck that has been excavated sank off Cape Gelidonya, Turkey, the next peninsula to the east of Uluburun. Its 1960 excavation revealed a slightly later wreck, seemingly from the late thirteenth century. This modest merchant vessel, probably only twenty-five to thirty feet (eight or nine meters) long, carried only thirty-four four-handled copper ingots from Cyprus, an unknown quantity of tin ingots, and a smaller cargo of scrap bronze from Cyprus. The copper ingots in this case were stacked one upon the other, but as at Uluburun they were bedded on dunnage, in this case of twigs. Metalworking tools such as stone hammerheads, a small bronze anvil, as well as stone polishers and a whetstone, suggest the presence of a tinker. It seems more likely that the ship was on a private merchant venture than on a royal mission, but that cannot be proved. Whatever its nature, the personal possessions found on the ship—cylinder seal, scarabs, balance-pan weights, stone mortars, and lamp—

point to a Syrian or Canaanite crew. Nevertheless, a Ugaritic document lists a similar cargo of copper and bronze on a ship from Alashiya in a Ugaritic harbor. Thus, if Alashiya was Cyprus, the possibility that the ship lost at Cape Gelidonya was Cypriot cannot be ignored. Another late-thirteenth-century wreck of possible Cypriot origin has been found near Iria, in the Bay of Argos, Greece.

If a slightly earlier shipwreck of copper ingots, found in the neighboring Bay of Antalya by Greek sponge divers in the 1920s, can be relocated and excavated, it will provide the third wreck on the same hypothesized counterclockwise route between the Levant and Egypt, and will provide additional evidence for the nature of Late Bronze Age trade.

Shortly after the modest merchant ship sank off Cape Gelidonya, the nature of seafaring in the eastern Mediterranean was to change forever. Among the symptoms of the collapse of the Late Bronze Age were attacks by the mysterious Sea Peoples, perhaps at least partly from the Aegean, who ravaged towns on Cyprus and along the Syro-Palestinian coast. Early in the twelfth century, in a naval battle memorialized by Ramesses (Ramses) III in a relief at Medinet Habu in Thebes, the Egyptian fleet finally defeated a Sea Peoples fleet at some unknown locality, perhaps in or near the Nile Delta. In the relief, the Sea Peoples' ships are shown as double-ended vessels with birds' heads on their bows and sterns, reminding us of bird-headed Aegean vessels. The sails of the Sea Peoples' ships are not attached to lower yards, and they seem to be furled by means of lines called brails. As the lion-headed Egyptian vessels have similar sails, one must suppose that Egyptian mariners had adopted a foreign rig. (See "The 'Sea Peoples' and the Philistines of Ancient Palestine" in Part 5, Vol. II.)

Shortly thereafter the Egyptian fleet slid into decline. The *Tale of Wenamun*, a story of a temple official from Karnak who sailed to Byblos to obtain wood for a ceremonial barge, tells us that by a little after 1100, Canaanite ships dominated trade along the Levantine coast.

From that time, the history of ships and shipping in the Levant is a history of later Canaanite, or Phoenician, ships. In the tenth century, for example, King Solomon had to call on the Phoeni-

cian king Hiram of Tyre for experienced mariners to help man a fleet sent to Ophir to obtain gold. The location of Ophir is today debated, but this joint Hebrew-Phoenician fleet was based at the port of Ezion-geber (near Elath) on the Gulf of 'Aqaba, where archaeological excavations at Tell al-Khalayfa have uncovered slightly later ships' stores: rope, nails, and pitch for caulking.

Assyrian kings also depended on Phoenician sailors and shipwrights. Thus it is, ironically, from Assyrian depictions that we know most about the three major types of Phoenician ships.

The *hippos* (Greek for "horse," plural *hippoi*) was a double-ended coaster whose high stem and sometimes stern were decorated with animal heads; in some cases the stem alone was shaped like the head of a horse. *Hippoi* were propelled by from two to five standing rowers who faced forward and worked oars with curiously curved blades. A mast with a crow's nest for a lookout is depicted on one of them. (Apparent *hippoi* shown on rivers are, in fact, Assyrian royal boats adapted from the Phoenician prototypes.) An eighth-century relief from the palace of Sargon at Khorsabad (ancient Dur Sharrukin) shows them used to tow logs.

A warship with a metal-sheathed ram protruding from its bow appears in an eighth-century painting at Til-Barsip (modern Tell Ahmar). This ship was a true weapon, like a spear, and not simply a military transport. Its oars passed through small oarports in the hull, rather than over the cap rail, perhaps for protection of the rowers.

The ship's ram had already appeared in Greece in the ninth century, and by the eighth century some Greek warships had increased the number of rowers by seating them on two levels.

Exactly when Phoenicians adopted the ram and developed galleys rowed from two levels is not known, but by the seventh century their warships were rowed from two levels, the lower rowers' oars passing through oarports, and the upper rowers' oars passing over the cap rail. A row of round shields was attached to the sides of an upper deck, above the heads of the upper rowers, to protect the soldiers there. A pair of quarter rudders was operated from the upper deck. The bow of each ship tapered to form a pointed ram.

Double-banked warships with rams are

known especially from a series of reliefs that record the flight to Cyprus by the people of Tyre to escape an invasion by Sennacherib. A unique type of ferry appears in the same scene. It, too, was rowed from two levels; it, too, had shields along its upper deck to protect its passengers—men, women, and children—and it, too, was steered by a pair of quarter rudders. But it was a tubby, symmetrical vessel with high, vertical stem and sternpost.

Egyptian rulers, like their Hebrew and Assyrian counterparts, also turned to Phoenician seamen. If we are to believe a tale repeated by Herodotus, Phoenician sailors sent out by Pharaoh Necho II circumnavigated Africa about 600 BCE. Herodotus himself did not believe this story because the sailors had claimed that as they sailed around Africa, from the Red Sea to Gibraltar, the sun appeared on their right, to the north. Herodotus found that claim preposterous. Today we know that it is exactly what would have happened in the Southern Hemisphere, which makes the story more believable.

That Phoenicians sailed beyond the Straits of Gibraltar is certain. At the time of their probable circumnavigation of Africa, they founded a trading colony at Mogador on the Atlantic coast of Morocco. (For a different view and for a map of this region, see "The Phoenicians" in Part 5, Vol. II.) What kinds of ships they used to brave this great ocean we do not know. But certainly some of them sank. Their remains, and the remains of near eastern vessels of all periods, await discovery and examination by the nautical archaeologists who will one day write a definitive history of seafaring in the Near East.

BIBLIOGRAPHY

General Works

GEORGE F. BASS, ed., *History of Seafaring Based on Underwater Archaeology* (1972); LIONEL CASSON, *Ships and Seamanship in the Ancient World* (1971); and JAMES HORNELL, *Water Transport: Origins and Early Evolution* (1946; repr. 1970).

River Craft in Mesopotamia

MARIE-CHRISTINE DE GRAEVE, *The Ships of the Ancient Near East (c. 2000–500 B.C.)* (1981).

River Craft in Egypt

CHARLES BOREUX, *Études de nautique égyptienne* (1925); S. R. K. GLANVILLE, *Catalogue of Egyptian Antiquities in the British Museum*, vol. 2: *Wooden Model Boats* (1972); CHERYL WARD HALDANE, "Boat Timbers from el-Lisht: A New Method of Ancient Egyptian Hull Construction," *Mariner's Mirror* 74 (1988); J. J. JANSSEN, *Two Ancient Egyptian Ship's Logs* (1961); NANCY JENKINS, *The Boat Beneath the Pyramid* (1980); PAUL LIPKE, *The Royal Ship of Cheops* (1984); DIANA CRAIG PATCH and CHERYL WARD HALDANE, *The Pharaoh's Boat at the Carnegie* (1990); GEORGE A. REISNER, *Models of Ships and Boats*, *Catalogue Général des Antiquités Égyptiennes du Musée du Caire* (1913); and HERBERT E. WINLOCK, *Models of Daily Life in Ancient Egypt* (1955).

Seagoing Vessels

GEORGE F. BASS, *Cape Gelidonya: A Bronze Age Shipwreck*, *Transactions of the American Philosophical Society* 57, pt. 8 (1967), and "Oldest Known Shipwreck Reveals Splendors of the Bronze Age," *National Geographic* 172, no. 6 (1987); MANFRED BIETAK, "Zur Marine des alten Reiches," in *Pyramid Studies and Other Essays Presented to I. E. S. Edwards*, edited by JOHN BAINES et al. (1988), pp. 35–40, with pls. 5–9; BJÖRN LANDSTRÖM, *Ships of the Pharaohs* (1970); ROBERT PAYTON, "The Ulu Burun Writing-Board," *Anatolian Studies* (1991); TORGNÝ SÄVE-SÖRDERBERGH, *The Navy of the Eighteenth Egyptian Dynasty* (1946); and SHELLEY WACHSMANN, "The Ships of the Sea Peoples," *International Journal of Nautical Archaeology and Underwater Exploration* 10 (1981), and *Seagoing Ships and Seamanship in the Late Bronze Age* (1994).

SÉE ALSO **Island Cultures: Crete, Thera, Cyprus, Rhodes, and Sardinia** (Part 6, Vol. III) and **Distant Shores: Ancient Near Eastern Trade with South Asia and Northeast Africa** (Part 6, Vol. III).

Island Cultures: Crete, Thera, Cyprus, Rhodes, and Sardinia

A. BERNARD KNAPP

ENVIRONMENT AND CLIMATE

The Mediterranean may be visualized as a peninsula in reverse, an immense body of water surrounded and nearly enclosed by land. Fernand Braudel maintained that this “[sea] in the midst of land” (which is what the word Mediterranean means) has two faces: a series of compact, mountainous peninsulae interspersed with fertile plains, and a fragmented complex of seas, including the Aegean, Ionian, Adriatic, and Tyrrhenian. The Mediterranean area has a distinctive climatic pattern: summer drought; winter rains; and a mean annual temperature of $15 \pm 5^\circ \text{C}$. It is characterized by broadly comparable plant formations, producing drought-resistant flora such as summer-only evergreens, scrub, or dry heath. Within the Mediterranean world, typical trees include evergreen oak, pistachio, carob, olive, and occasionally the date palm. Deep red (terra rossa) soils, set off by chalky white limestone and deep blue sea, typify the Mediterranean landscape.

Human settlement, plant cultivation, and stock-grazing have contributed much to the stark landscapes that characterize most Mediterranean countries today, as various natural factors—thin soils, steep slopes, a vegetation

vulnerable to fire, intensive and unpredictable seasonal rainfall—made Mediterranean ecosystems highly vulnerable to human impact. This complex, dynamic pattern of cultural and environmental interrelations produced not only the contemporary Mediterranean landscape, but also that of the Bronze Age. Pollen diagrams reveal that by the time complex societies began to emerge in the Mediterranean during the course of the third millennium BCE, vegetation disturbance had already occurred. By then wheat, lentils, and perhaps olives and carobs had begun to be cultivated within the Aegean and eastern Mediterranean, and several varieties of fruits (figs, grapes) and nuts (almonds, pistachios) were exploited. One positive result of cultural-environmental relations was that terraced vineyards and olive groves helped to conserve soil and thus to forestall habitat degradation. Generally speaking, the mixed farming (agricultural and pastoral) system typical of the Bronze Age Mediterranean was small in scale, relatively constant in growth, and undeveloped in comparison to ancient near eastern systems.

Despite the distinctiveness of the Mediterranean world’s climate, flora, soils, and stark landscapes, it has long been a pluralistic and (in human terms) multicultural world. The lands that

rim the Mediterranean, from Gibraltar to the Levant, have been home to a great variety of human cultures living in dramatic, and sometimes dramatically different, environments. The moderate climate and an abundant variety of plant, animal, and mineral resources initially made Mediterranean coasts, and some islands, attractive for human settlement.

Present evidence from the Mediterranean islands indicates that permanent, intentional human colonization did not begin until the seventh millennium BCE. Sardinia, Cyprus, and Crete (together with Sicily and Corsica) are the largest Mediterranean islands; their physical and biotic diversity enabled sizable populations to live, and eventually to thrive, in various regional habitats. These factors almost certainly encouraged permanent human settlement much earlier than was the case with smaller islands and island groups, like the Cyclades. Intensive colonization of all the islands, large or small, occurred only at the end of the Neolithic period and the beginning of the Bronze Age (from the late fourth to the early third millennium), when our survey of Mediterranean island cultures begins.

POLITIES AND ECONOMIES: THE MATERIAL EVIDENCE

By the beginning of the Early Bronze Age, around 3000, all of the islands discussed here had been settled for at least the best part of a millennium (and in the case of Cyprus, Crete, and Sardinia, for several millennia). For various reasons the cultural sequences on Cyprus and Crete are better known than those on Sardinia, Rhodes, and Thera (modern Santorini). But in contrast with mainland Mesopotamia, Syria, and Egypt, where documentary evidence abounds, knowledge of developments on all of the islands during the third millennium is based solely on archaeological evidence. It is only during the Middle Bronze (about 2000–1600) and especially in the Late Bronze (about 1600–1200 or 1100) Ages that written records offer some insight into cultural continuity, change, and interconnections of the Mediterranean islands and between those islands and the Near East.

Because the chronology of the Mediterranean

islands during the third millennium is often vague, cultural sequences—and the political, economic, and social processes associated with them—can only be presented in very broad terms; direct cause and effect are difficult to establish. Nonetheless, intensive archaeological explorations on Cyprus and Crete over the past one hundred years have provided a wealth of evidence. By the Middle and Late Bronze ages, detailed cultural sequences are available for many Mediterranean islands, and the chronological framework in the Aegean and eastern Mediterranean, at least, is well known (although absolute dating methods are still fiercely debated).

There are two reasons for the improved possibilities of dating. The first is that since international contacts developed on an unprecedented scale between about 1800 and 1100, distinctive Cypriot and Aegean artifacts (usually pottery or metals) have been found within secure stratigraphic contexts in Egypt or western Asia, where astronomically derived dates help to narrow the chronological limits. Second, the spectacular Bronze Age eruption on the Cycladic island of Thera (about 1650) not only buried the site of Akrotiri, but in so doing also preserved abundant evidence that can be used for radiocarbon dating.

Neither of these factors, however, has resolved the chronological debate. Astronomical dates are plagued by uncertainties ranging from 10 to 50 years in Egypt and about 120 years in Mesopotamia. The best approximation for the radiocarbon dates associated with the Thera eruption is 1640, a date that may correlate rather closely with other scientific evidence (tree-ring dating, frost-ring dates, ice-core dates). Because many Aegean prehistorians do not accept radiocarbon dating evidence, there exists a disparity of over 150 years between their favored date for the eruption of Thera (about 1500) and the best estimate that current scientific evidence can provide.

Such discrepancies are not uncommon in archaeology, even though an amazingly wide range of scholarly expertise and high-technology design has been exploited. With such caveats and concerns firmly in mind, developments on each island may be considered in turn.

Cyprus

With an area of 9,251 square kilometers (3,700 square miles), Cyprus is the Mediterranean's third largest island. Lying in the northeast corner of the Mediterranean, it is the island closest to the mainland Near East; not surprisingly, it exhibits more evidence of Bronze Age contacts with near eastern states than any of the other islands. Anatolia is approximately 70 kilometers (42 miles) north of Cyprus, and Syria is about 95 kilometers (57 miles) east. Egypt is located about 400 kilometers (240 miles) south, and the Aegean island of Rhodes lies nearly 500 kilometers (300 miles) west. That Cyprus had contact with these areas is evident from imported artifacts found chiefly in several important Late Bronze Age harbor sites, namely Enkomi, Hala Sultan Tekke, Maroni, and Kition.

Much of this evidence stems from the final Middle and Late Bronze Ages. While pottery and metal finds from the Early and Middle Bronze Ages are abundant, most of these artifacts come from burials rather than from stratified settlement contexts and are thus quite difficult to date precisely. The majority of them were "excavated" (looted would be more correct) during the nineteenth and early twentieth centuries, with little concern for their stratigraphic and material associations or for other concerns critical to modern archaeology. Nonetheless, by considering the evidence available, particularly regarding the developments in subsistence and metallurgy, and by previewing the more comprehensive archaeological remains from the Late Bronze Age, it is possible to present an overview of island society on Bronze Age Cyprus.

Throughout the Early and Middle Bronze ages, settlements increased in size and number and spread over much of the island. There is limited evidence for external contacts up to about 1700, but apparently even without them, the island economy continued to develop at this time. The plow began to be widely used in farming, cattle were introduced to the island from overseas, and people became more dependent on domesticated animals, especially sheep and goats. Specialized goods were produced (e.g., textiles, stone figurines) and advances in technology resulted in the development of a range of copper-based tools, weapons, and jewelry.

Despite the limited number of imports found in Cyprus before the Late Bronze Age, both archaeological and documentary evidence indicate that a variety of goods (timber, copper and tin, wine and oil, pottery) was traded during the Early and Middle Bronze Ages throughout the Aegean and other parts of the eastern Mediterranean. There is no reason to think that these expanding maritime trading activities excluded Cyprus, particularly as its copper increasingly came into demand. Furthermore, the seaborne transport of raw materials or manufactured goods became easier with innovations in shipbuilding and navigation. At this juncture, sometime during the nineteenth and eighteenth centuries, cuneiform records from Mari (Tell Hariri) first record copper from "Alashiya," a place-name that virtually all epigraphers and historians now accept as the Bronze Age equivalent of Cyprus (or of some polity on Cyprus).

The flourishing Middle-Late Bronze Age land of Alashiya is mentioned frequently in cuneiform and Egyptian hieroglyphic or hieratic documents and in a variety of less-informative documentary evidence (Linear B, Hebrew, Phoenician). From the *onomastica* (personal names) preserved in these documents, it is apparent that Cyprus was more closely associated with Levantine cultures and peoples than with those of the Aegean; the population was a polylingual, multiethnic mixture that included Hurrians, Semites, Hittites, and Egyptians, and covered the entire social spectrum.

From the texts that mention Alashiya, two things stand out. First, Cyprus's extensive copper resources were in constant demand throughout western Asia and Egypt; as a result, Cyprus participated actively in eastern Mediterranean regional trade systems. Second, Cyprus maintained neutrality in the Egypto-Hittite conflict for control over Syria during the fourteenth and thirteenth centuries. Although Cyprus lay closer to mainland political centers—such as Khattusha (modern Boğazköy), Ugarit (modern Ras Shamra), and Byblos (biblical Gebal, modern Jubayl)—than those centers did to one another, its insularity provided a suitable haven for Syrian or Anatolian exiles. Cyprus maintained this conspicuous economic and geopolitical profile throughout the final Middle and Late Bronze Ages (about 1700–1100).

Between 1700 and 1400, the archaeological record of Cyprus underwent several striking changes: (1) urban centers with public and ceremonial architecture (temples) began to appear throughout the island; (2) burial practices showed unprecedented distinctions in social status; (3) Cypro-Minoan texts first appeared; (4) copper production and export intensified as interregional trade blossomed; and (5) new fortifications were built and there was a relative increase in the amount of weaponry. These developments reveal the island's transformation from an isolated, village culture into an international, urban-centered, complex society.

The exploitation of limited resources (agricultural, metal) permitted the centralization of authority in the hands of a new political elite. Profits from copper production and trade were deployed in commercial enterprise, in building projects, and in the stabilization of centralized authority. In various ways and through different manifestations, the copper industry offered opportunities for increased wealth and thus led to further changes in society.

The production and trade of copper increasingly involved Cyprus in the wider world of Mediterranean–near eastern trade. Newly built port cities (Hala Sultan Tekke, Maroni, Kition) specialized in trade and prospered as their populations grew. Cuneiform letters sent from Alashiya to the Egyptian pharaoh at al-Amarna (Akhetaten) in the fourteenth century show that the king of Cyprus wielded considerable authority over copper production and trade. Like the dynasts of contemporary western Asia, the Cypriot ruler used merchants as agents (*tamkārum*) to conduct foreign trade. These same cuneiform letters show clearly the output, shipping capacity, and efficiency of a highly specialized, well-coordinated political and economic system. However, in contrast to these specialized developments in urbanization, metallurgical production, and international trade, the mixed farming economy seems to have remained restricted and low-key.

Toward the end of the Bronze Age, Alashiya was affected by the widespread disruptions associated with the so-called Sea Peoples. One Hittite text alludes to a thrice-fought battle between the victorious Hittites and some ships from Alashiya. Yet because Cyprus's political

and economic system had proved so stable, the widespread collapse of other polities and trading networks in the eastern Mediterranean (about 1200) had limited effects on the island. Some of the most important and earliest-known developments in iron technology took place on Cyprus at this very time. And as incoming Aegean and Levantine peoples became amalgamated with the Cypriot population, industrial and commercial enterprise was revitalized. New maritime routes were opened to the Aegean and central Mediterranean in the quest for alternative metal supplies or other resources in demand. If the major focus of its external relations previously had lain eastward, during the twelfth and eleventh centuries Cyprus increasingly developed new associations with the Aegean and central Mediterranean, especially with Crete and Sardinia.

The Aegean

Crete and the Cyclades Crete is the southernmost and largest (approximately 8,200 square kilometers or 3,280 square miles) Aegean island; it is the Mediterranean's fifth-largest island. Thera is only about 40 square kilometers (16 square miles) in area (although the preeruption, Bronze Age island may have been somewhat larger) and, unlike Crete, is volcanic in origin; it forms the southernmost major island of the Cycladic group. The two islands lie approximately 100 kilometers (60 miles) apart, but Crete's western end stretches much closer to the Greek mainland (about 100 kilometers distant); Anatolia is about 200 kilometers distant from each island.

Over a century of intensive study and excavation in Crete and the Cyclades has produced a well-published archaeological record for the Bronze Age. The Cycladic islands generally have revealed much less evidence than Crete of Bronze Age contact with areas beyond the Aegean. (Late Middle Bronze Age Thera may be somewhat exceptional.) Cycladic influence (pottery forms) is found as far afield as Rhodes and Cyprus during the International Early Bronze Age but diminishes thereafter. In contrast, Cretan contacts with Cyprus, the eastern Mediterranean, and the Near East (including Egypt) increased through time and reached a peak during the Late Bronze Age. The question of near east-

ern influence on Minoan Crete—especially on the emergence and refinement of Crete's palace system—is a particularly difficult one; current opinion at least acknowledges the possibility of such influence.

Agricultural economies had become well established in both Crete and the Cyclades by the beginning of the Bronze Age (about 3000). During the millennium that followed, innovations in maritime transport and the earliest cultivation of olives and vines (a major subsistence supplement) stimulated the island economy and allowed its inhabitants to partake actively in maritime trade, to manufacture distinctive artifacts, and to build domestic and public structures that constituted the earliest towns in the Mediterranean. Although Cycladic sites averaged less than an acre in size, the spread of these small

farming settlements throughout the islands is a striking feature of the Early Bronze Age archaeological record.

The advent and spread of metallurgy—particularly in the Cyclades and on Crete—promoted greater social distinctions as some members of society acquired new wealth and prestige items. Because it was necessary to import tin for the working of bronze, long-distance trade, particularly with Anatolia and the Levant, was stimulated. Silver produced in the Cyclades also became an important commodity, and the products of early Aegean metallurgists helped to expand trade rapidly throughout the Aegean and along the western coast of Anatolia. A multitude of harbors and the diversity of trading routes further promoted internationalism.

Settlement expanded across Crete in the



Early Bronze Age, but most sites were relatively small in comparison with Knossos, Mallia, or Phaistos—all future palace centers and all situated in agriculturally favorable, focal positions. In order to construct and maintain these larger sites and to feed dependent personnel, society had to be reoriented and a labor force mobilized. The entire process served to centralize and stabilize control and led to further nucleation in these central sites. The early palaces, constructed shortly after 2000, already had large storage facilities in place and so were able to support themselves.

Because the palaces had both the means and the will to maintain production for export and to control imports, they must have played an important role in overseas trade. The internal political and economic processes that helped to establish the first palaces would also have led to intensified long-distance trade. In return for critical imports that helped to establish the power base of the palace centers, Crete offered to its eastern Mediterranean and near eastern trading partners finished goods: textiles, metal, and semiprecious stones from the Greek mainland; organic products such as specialty oils, wines, spices, and honey; and dyes, including purple dye. Such trade contacts raise issues about the extent of near eastern influence on the development of Aegean palatial civilization generally.

Is it possible that Minoan civilization—as well as the palace structures themselves—emerged partly as a result of interaction between the Aegean and the Near East? Because certain functional features of the palaces (e.g., the drainage system), as well as some of their technical and stylistic aspects (ashlar masonry, wall paintings), are shared between the two regions, a number of scholars argue for a direct exchange of technological and artistic ideas. It has even been argued that the thousands of clay sealings found on Crete indicate the adoption of near eastern administrative systems.

Several new features introduced into the Minoan palatial system—the shape of pottery vessels, aspects of ideology and divine iconography, the monumentality of the palaces, written scripts and the related complexity of Minoan systems of production and communication—are often thought to reflect an intimate association with near eastern notions of kingship. In

some ceremonial and administrative aspects, however, the Minoan traits have an antiquity comparable to that of the Near East, and there is little that is specifically near eastern about their use in the Minoan bureaucracies. Furthermore, while each Minoan palace has unique, individualizing elements, in overall design they revolve around a central court in a manner quite distinct from western Asiatic palaces (e.g., Mari, Alalakh [modern Tell Atchana]) or from Egyptian urban agglomerations (e.g., al-Amarna). The form of Minoan palaces, in other words, is clearly not derived from near eastern prototypes. The intensification of long-distance trade (for acquiring basic resources) between about 2000 and 1700, including perhaps gift exchanges between palace centers in both regions, may have prompted Cretan rulers to emulate what they learned about near eastern royal institutions, particularly those aspects that would have helped to consolidate their own rule. While exposure to the ideas and institutions of western Asia and Egypt did not lead directly to the rise of the Minoan palaces, it may have spurred competition among neighboring Minoan polities (e.g., Knossos, Phaistos, and Mallia) and so intensified economic development and sociopolitical change.

Keftiu/Kaptaru Some fifty texts in Egyptian, Akkadian, Ugaritic, Hebrew, Greek, and Latin make reference to “Keftiu/Kaptaru.” The value of these texts for historical or geographic arguments is uneven; only ten are both contemporary with the Bronze Age and at the same time relevant to a discussion of Cretan contacts with the ancient Near East. The hieroglyphic materials are limited in time to Egypt’s Eighteenth Dynasty (about 1500–1300), while the cuneiform documents are dated either to the nineteenth–eighteenth centuries (from Mari) or to the thirteenth century (from Ugarit). One Neo-Assyrian tablet mentions that Anaku (tin-land?) and Kaptaru lay “beyond the Upper Sea” (i.e., the Mediterranean), but by the time of this tablet’s composition in the seventh century, Kaptaru possibly no longer referred to a specific place.

Scholars have sought to locate Keftiu/Kaptaru in various parts of Anatolia, the Levant, and Cyprus. Its identification with Crete, however, is

widely accepted by Egyptologists, Assyriologists, and Aegean prehistorians. “Keftiu,” the Egyptian term, is thought to be a derivation of the Semitic term “Kap/btaru” but this is difficult to establish beyond doubt. Keftiu is often associated with another Egyptian term that translates “the islands in the midst of the Great Green” (which may refer to the Aegean area as a whole). Inscribed captions on Egyptian wall paintings describe gift bearers from Keftiu as inhabitants of “islands in the midst of the sea.” Strictly speaking there is no reason why the place-names Keftiu/Kaptaru could not refer to the Aegean area, or to Aegean peoples, as a single entity.

A list inscribed on a statue base from the funerary temple of Amenhotep (Amenophis) III at Luxor gives testimony of New Kingdom knowledge of the Aegean world. On its left-hand side are twelve Aegean place-names, reputedly including Knossos, Phaistos, and Kydonia on Crete; Mycenae and Nauplion on the Greek mainland; and Kythera in the Cyclades. Keftiu and Dnj (Danay perhaps, another name for mainland Greece; or perhaps Tnj-, an otherwise unattested name for Rhodes and the eastern Aegean) are listed on its right-hand side. One possible interpretation is that the towns mentioned on the left side are to be found in the lands mentioned on the right side.

Keftiu/Kaptaru could only be reached by ship, and it lay somewhere in the Mediterranean, distant from both Egypt and the Levant. Its geopolitical status is evident from its mention alongside such major powers in western Asia as Qadesh (Tell Nebi Mend, Syria), Qatna (Tell Mishrifeh), and Ugarit, as well as Babylon, Khatti, Asshur (modern Qalat Sharqat), and Cyprus. Keftiu/Kaptaru was involved in trade with Egypt, Ugarit, and Mari (and perhaps with Babylonia); it exported mineral and medicinal items, wood, fine pottery, oil, an alcoholic beverage, grain, and metals.

A variety of goods were exchanged between Kaptaru and Mari, some at least through the important harbor town of Ugarit on the Syrian coast. In the tomb of Rekhmire in Thebes (dating to the reign of Thutmose III, about 1430), depictions of “tribute” (which is how the Egyptians regarded their foreign trade) and tribute bearers from Keftiu show several types

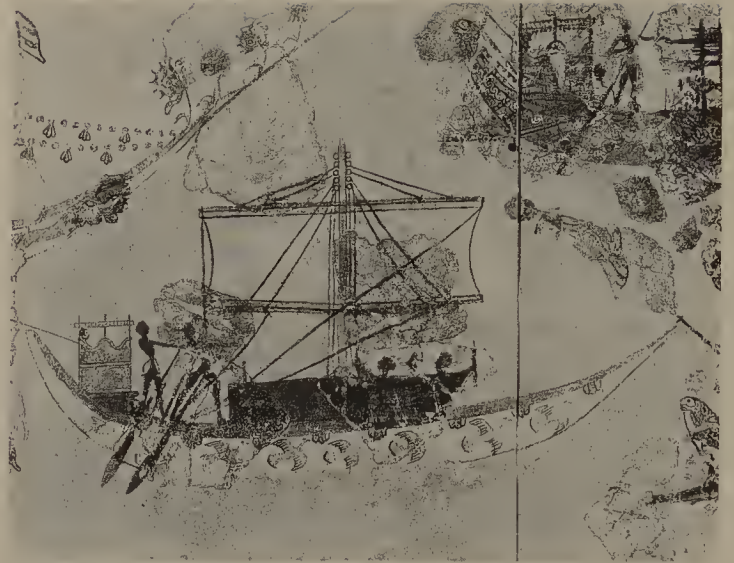
of fine Aegean pottery and metal goods. A thirteenth-century Akkadian text from Ugarit shows that a well-known merchant named Sinaranu shipped into Ugarit some grain, a fermented beverage, and oil from Crete (Kabturi). A list of Keftiu names, very difficult to interpret and datable only on the basis of epigraphy (to the reign of Tuthmose III), refers to individuals of Akkadian, West Semitic, and Hurrian derivation. Ships from Keftiu transferred to Egypt timber, ivory, and precious or semiprecious stones available in the Levant; accounts from an Egyptian naval yard, dated to the reign of Amenhotep (Amenophis) II, indicate that some Keftiu ships were either built or repaired in Egypt. An exciting discovery at Ezbet Helmi, near Tell ed-dab'a in the Egyptian Delta, consists of fragments of Minoan-style wall paintings dating to the late Hyksos period. Whether they were there for aesthetic or ritual reasons and whether they decorated a house belonging to an Egyptian or to a Minoan merchant remain to be ascertained.

Thera Minoan cultural contacts with the Cyclades are nowhere so apparent as at the site of Akrotiri in Thera, a veritable Bronze Age Pompeii of the Aegean. Excavations at Akrotiri have produced large quantities of Minoan pottery, as well as “Minoanizing” features and iconography in pottery, frescoes, spindle whorls, lamps, and other items. With the advent of the Minoans as a major political and economic force in the Aegean during the early second millennium, it is likely that prestige or power accrued simply from possessing Minoan products or from adopting certain aspects of Minoan religion.

At about the same time that the new palaces were (re)built on Crete, Akrotiri's “town houses” also underwent reconstruction on a grander scale. The material evidence of this period of grandeur on Thera has been uniquely preserved by the violent volcanic eruption that occurred early in the Neo-Palatial period, toward the end of what Aegean prehistorians call the Late Minoan (LM) IA period. In the final two phases of its occupation, the settlement at Akrotiri had taken on urban characteristics similar to those of the palatial centers on Minoan Crete. Akrotiri's size alone is exceptional in the Middle–Late Bronze Age Cyclades; its estimated twenty hectares (fifty acres) makes it from

ten to twenty times larger than contemporary sites on other Cycladic islands and almost one-third the size of the contemporary settlement at Knossos. Proximity between Crete and Thera must have played some role in these developments but did not preclude Thera's cultural independence; Akrotiri's multistoried architecture is unique, and its pottery and other fine arts represent a high Cycladic standard.

Akrotiri served as an important maritime center for contacts and trade within the Aegean; its material remains and frescoes suggest that Akrotiri's residents or merchants had direct links with the eastern Mediterranean interregional trade and supply system. Sailing ships (like one depicted on the Miniature Fresco from Thera), also helped to regularize intra-Aegean trade and made possible an increased movement of local, surplus, and luxury goods, including the bulk exchange of metals. Within the context of Minoan civilization as a whole, Akrotiri would represent the headquarters of a centralized bureaucracy, with a maritime location ideally situated for inter-Aegean communications. Although Akrotiri shows evidence of having had a measuring system, and the local knowledge of writing (in the form of potmarks) can be inferred, there is as yet no evidence of a Minoan-type miniature palace or the extensive administrative paraphernalia that would go with it. Still, the hurried abandonment of the site in the face of a volcanic eruption increases the likelihood of



Miniature fresco from Room 5 of the West House at Akrotiri, showing an Aegean boat that has two steering oars situated side by side. CHRISTOS G. DOUMAS, *THE WALL-PAINTINGS OF THERA* (1992)

finding an administrative archive, which would offer important new clues to the Thera economy.

The cataclysmic destruction of the town of Akrotiri (at the end of the Late Minoan IA period, named after the Minoan style then in vogue) buried it in up to 30 meters (100 feet) of volcanic ash and debris. Thera itself was devastated, and there can be no doubt that the entire Aegean area, especially the southern Aegean and Crete, was affected by ash fallout, if not tidal waves. Because tidal waves build up to their greatest height and velocity when they encounter shallow water, ships at sea would have been battered while ships in port would likely have been destroyed. Shipping and trading within the Aegean region must have been curtailed as a result, and some scholars argue that this (hypothetical) series of related events must have broken Minoan control over Aegean seas. However, even if earthquakes connected with the eruption caused some localized destruction, most scholars now concur that a series of catastrophes on Crete, which seriously undermined its preeminent position within the Aegean, occurred during the Late Minoan IB (not the LM IA) pottery phase. There is, therefore, no direct causal link between the eruption of Thera and the demise of Minoan culture and hegemony.



The Southwest corner of West House at Akrotiri, Thera, viewed from Triangle Square. CHRISTOS G. DOUMAS, *THERA: POMPEII OF THE ANCIENT AEGEAN—EXCAVATIONS AT AKROTIRI, 1967–1979* (1983)

The Peak and Collapse of Minoan Power In about 1700, an earthquake (or series of quakes) destroyed Crete's first palaces. Elaborate reconstruction followed during the Neo-Palatial period; the magnificent frescoes widely recognized as an important hallmark of Minoan civilization adorned the new palace walls. Fine pottery painted with marine and floral designs reveals a high level of specialized craftsmanship, and a variety of other products—jewelry, engraved gems, bronze items, and ivory figurines—indicate unprecedented wealth. Self-supporting in food and most other basic resources (but not metals), Minoan Crete reached the apex of prosperity by about 1600, at least partly as a result of intensified agricultural and textile production. Wide-ranging trade contacts funneled luxury items and other goods into the economy.

Toward the end of the Late Minoan IB period, nearly all excavated Minoan sites—with the possible exception of Knossos—experienced damage, destruction, or desertion. Whether caused by human or natural agents, these events

were eventually followed by extensive rebuilding in a style hardly less elaborate than that of the palatial era. Whether or not Knossos was destroyed, it too was remodeled at this time in the same manner. Settlement all over Crete contracted during the subsequent (Late Minoan II) period, and thenceforth Knossos was the only functioning palatial center. Other sites, furthermore, emulated developments in architecture, pottery, and metals at Knossos after the Late Minoan II period.

At the same time, there are a few indicators of Mycenaean Greek influence on Crete: warrior burials with extensive weaponry (in the Mycenaean fashion); unprecedented military themes in the palace frescoes at Knossos; pottery reminiscent of Mycenaean styles; and the use of the Linear B script (to write the Mycenaean Greek dialect), which at least partially replaced Linear A. Finally, at some disputed point in time (probably within the first half of the fourteenth century), the grand palace at Knossos suffered destruction by fire, which must have diminished its influence on the island. Regional Minoan cul-



Bull-jumping fresco from the east wing of the palace at Knossos, Crete, circa 1700–1400 BCE.
J. D. S. PENDLEBURY, *A HANDBOOK TO THE PALACE OF MINOS AT KNOSSOS* (1979)

tures continued to flourish, but palatial life on Crete and Minoan hegemony in the Aegean had come to a decisive end.

This political and economic collapse, and the subsequent cultural transformations, occurred at a time when Minoan power—in archaeological terms—seemed at its peak; therefore, it is one of the enduring enigmas in Mediterranean prehistoric archaeology. Political power and economic predominance on Minoan Crete are likely to have been disrupted by several interlocking factors, each of which has been treated as the sole cause (the Theran eruption, which caused structural stress; tephra [ash] fallout, which created economic and trade stress; and subsequent earthquakes during the Late Minoan period, which gave rise to socioeconomic stress). Mycenaean influence is evident from the mid fourteenth century onward. But Minoan material culture remained strongly in evidence; Linear A continued to be used at least throughout the Late Minoan II period; and in the Linear B archives at Knossos, three-quarters of the names mentioned are non-Greek. Crete, in other words, remained staunchly Minoan to the end.

Rhodes Archaeological circumstances on Rhodes in the Dodecanese (“twelve islands”) have something important in common with those on Cyprus, Crete, and the Cyclades: clandestine and illegal excavations in tombs during the nineteenth century produced a multitude of pottery—including a wealth of Mycenaean-type pottery—whose findspots (and thus cultural contexts) have been lost forever. If contacts between Rhodes and the Aegean region were particularly intense, the island’s comparative lack of Levantine or near eastern goods presents an enigma.

Throughout the Dodecanese (including Rhodes), archaeological evidence for the Early and Middle Bronze Ages is still poorly attested. The heaviest concentration of Bronze Age sites is found along the fertile northwest coastal plain of Rhodes. Two key Late Bronze Age sites, Trianda and Ialysos, lie near the northwestern tip of the island. The earliest (Middle Bronze Age) settlement at Trianda has a local character interlaced with “Trojan” (northwest Anatolian) elements. A subsequent (Late Bronze Age) town

covered over twelve hectares, or thirty acres (contemporary Akrotiri on Thera was about twenty hectares, or fifty acres) and has revealed so much evidence of Minoan contact that Trianda at this time is widely regarded as a Minoan colony. Whatever may be the virtues of such a classification, it tends to mask the fact that Trianda—like contemporary Akrotiri and many Minoan settlements—underwent a remarkable expansion and elaboration during the Late Minoan IA period, while smaller settlements developed around the core town. Late Bronze Age Trianda was a port town, and the first Aegean port for any trader coming from the east. Yet if the Minoans dominated Rhodes and controlled the flow of prestige goods or essential raw materials through the island (so ensuring their continued transport to Crete), the limited amounts of eastern Mediterranean materials found on the island may be more understandable.

The large LM IA town at Trianda underwent rebuilding after what appears to have been earthquake damage, but those renovations were disrupted and left unfinished, perhaps as one outcome of the massive volcanic eruption on Thera. With Trianda’s apparent abandonment (sometime during the fourteenth century BCE), evidence from Late Bronze Age settlements on Rhodes comes to an end. Mortuary evidence for the following centuries is overwhelmingly one-sided, based entirely on the massive cemetery site at nearby Ialysos. The cemetery at Ialysos contained over 125 chamber tombs (of Mycenaean type) and hundreds of Mycenaean pottery vessels, dated between about 1400 and 1200 (Late Helladic IIB–Late Helladic IIIC). The presence in the Ialysos tombs of a variety of metal artifacts (including gold and silver), amber, glass ornaments, beads of semiprecious stones (including rock crystal), and even the odd seal and Egyptian scarab attests to far-flung economic relations.

Given this evidence it seems inappropriate to characterize Rhodes simply as a Minoan colony during the first two hundred years of the Late Bronze Age and as a Mycenaean enclave thereafter. By the end of the Bronze Age, “Mycenaean”-type pottery (Late Helladic IIIC) was produced locally; in addition, most second-order settlements on the island had been abandoned. Although these developments are often

viewed as the results of yet another influx of Mycenaeans (refugees this time), they may be seen instead as indicating internal change on Rhodes, namely the nucleation of settlement near Ialysus for reasons yet to be determined. Minoans and Mycenaeans obviously participated in Late Bronze Age trade throughout the eastern Mediterranean (which included Rhodes and the Dodecanese generally), but they did not have to establish full-fledged colonies in order to do so. The current archaeological record of Late Bronze Age Rhodes suggests that there may have been a group of Minoan or Mycenaean merchants quartered at Trianda or Ialysus to handle the transshipment of goods to and from Cyprus and the Levant. In such a system, Rhodian elites would have sought to emulate and acquire certain types of prestige goods from the Aegean core area.

Akkhiyawa The quantity of Mycenaean pottery in the cemetery at Ialysus has led some scholars to characterize Rhodes as one of the most important Mycenaean centers outside of the Greek mainland. As such, Rhodes has been equated with the land of Akkhiyawa (*Aḫḫiyawa*) mentioned in Hittite cuneiform texts of the fifteenth–thirteenth centuries. Emil Forrer, who studied these texts in the 1920s and 1930s, maintained that, although linguistically problematic, Akkhiyawa was the Hittite way of writing the Greek “Akhaiwa,” which he equated with the Achaean Greeks of the Homeric epics. Ferdinand Sommer, who strongly contested Forrer’s equation, published during the 1930s most of the twenty known Hittite documents that mention the place-name Akkhiyawa. Sommer felt that the resemblance between Akkhiyawa and Achaiwa was fortuitous and that the former most likely referred to a west Anatolian state. The debate continues to this day, and over the decades Akkhiyawa has been identified variously as an Anatolian kingdom, the Mycenaean kingdom on mainland Greece, or some island kingdom off the Anatolian coast (e.g., Rhodes or Cyprus).

If the equation of Akkhiyawa with “Achaean Greek” is accepted, the geopolitical status of the Aegean world implied by the Keftiu/Kaptaru records finds further substantiation; the Hittites, at least, regarded Akkhiyawa to be on a political par with the states of Babylon, Assyria, Mitanni,

Egypt, and Khatti itself. Mycenaean commercial ventures, as indicated in the archaeological record of several lands, closely corresponded in time and space to the economic and political activities of Akkhiyawa. Despite the reservations of Aegean prehistorians, Mycenaean linguists, and Hittitologists, a correspondence between Akkhiyawa and Akhaiwa—circumstantial though it must remain—seems eminently defensible; it opens a window on Aegean (specifically Mycenaean) military and political maneuvers in western Anatolia (less so in Cyprus), indicates that diplomatic relations existed between the two areas, and makes it possible to consider anew the quasi-historical aspects of the Trojan War portrayed in the Homeric epics. (See “Troy: Legend and Reality” in Part 5, Vol. II.)

Sardinia and the Shardanu

Sardinia, with its 15,325 square kilometers (6,130 square miles), is the second largest island (after Sicily) in the Mediterranean. At no point does Sardinia lie closer than 200 kilometers (120 miles) to the Italian mainland; yet only 10 kilometers (6 miles) separate it from Corsica (55 kilometers [33 miles] from the mainland), which probably served as the stepping-stone in the earliest colonization of both islands. Sardinia ranks with Cyprus among the Mediterranean islands in demonstrating the oldest human presence.

Texts that mention the “Shardanu” (or “Sherden”)—if indeed this term can be associated with the Bronze–Early Iron Age inhabitants of Sardinia—have been studied at great length by philologists. And thanks to the efforts of archaeological superintendents on Sardinia, knowledge of the island’s archaeological record, especially during the Bronze and Iron Ages, expanded dramatically during the 1980s. But the type of detailed information available on material culture, settlement patterns, and chronology in the Aegean and eastern Mediterranean cannot be equalled yet for Sardinia and the western Mediterranean. Recent archaeological excavations and archaeo-metallurgical research by Italian, British, and American teams have shed important new light on contacts between the eastern and western Mediterranean in the centuries between about 1500 and 1000. Yet the study and understanding of the mechanisms of Mediterranean trade overall is still in its infancy,

The Shardanu

Among the groups of Sea Peoples mentioned in near eastern documentary evidence, the best known are the Plst, or Philistines, who settled soon after 1200 BCE in the southern Levant and gave their name to the region still known as Palestine. Other groups—whose association with various ethnic elements or geographic locations remains contentious—included the Lk, Trs (Etruscans?), Skls or Skl (Sicilians?), Dnyn (Danuna? Danaan Greeks?), and the Shardanu/Sherden, frequently equated with Sardinians.

The Shardanu first appear in cuneiform texts as Egyptian mercenary troops stationed in Levantine garrisons (fourteenth century) or fighting with Ramesses (Ramses) II against the Hittites at the Battle of Qadesh (Tell Nebi Mend), in southern Syria (thirteenth century BCE). Ugaritic administrative texts of the thirteenth century also mention the Shardanu, some of whom were mobilized for military service by the royal palace, and others of whom received royal land grants, presumably as payment for their military activities. By the reign of the Egyptian pharaoh Merneptah late in the thirteenth century, the Shardanu had switched allegiance and appear among a group of Libyan allies defeated by the pharaoh in Egypt's western Delta. The Shardanu reverted to their role as Egyptian accomplices in the Libyan struggles of Ramesses III early in the twelfth century. In Ramesses's eighth year, however, the Shardanu and the Wss were defeated and brought as captives to Egypt by the thousands ("like the sand of the shore"). Allowing here for a bit of pharaonic hyperbole, this inscription may describe the climax of the battles waged by the Egyptians against the Sea Peoples.

The Shardanu appear next—together with the Plst and Skl—in an early-eleventh-century Egyptian text (the *Onomasticon* of Amenemope) that refers to the towns and peoples of Canaan (southern Levant). By this time the pioneering activities of Cypriots and Aegean peoples in the central-western Mediterranean had been appropriated—or at least supplemented—by the Phoenicians. The earliest archaeological evidence of Phoenician settlements or trading stations at western Mediterranean sites is no earlier than the ninth century. However, the eleventh-century dating (based on the writing style) of a Phoenician inscription found at Nora in Sardinia (the Nora Fragment), together with a proposed eleventh-century dating for certain Phoenician figurines, suggest that the Phoenicians may have been exploring the central Mediterranean two centuries before they began to reside in the area. Another inscription found

at Nora (the Nora Stone) is even more significant for this discussion; it indicates that by the ninth century, some people called Shardanu were dwelling on the island of Sardinia.

The link between the Shardanu—now friend, now foe of the Egyptians—mentioned in cuneiform and hieroglyphic documents of the centuries between about 1400 and 1150 and the Shardanu of the ninth century (Phoenician) Nora Stone is not at all straightforward. To make the link historically valid, it must be demonstrated that some of the Levantine Shardanu had established themselves (perhaps in a merchant colony or quarter) on Sardinia, as Phoenician traders or raiders, by the ninth century. Although the trade in copper oxhide ingots provides one material link between the eastern and central Mediterranean that hints at such an association, the bulk trade in metals had ceased by 1000. A Phoenician role in that trade seems unlikely and in any case remains unproven. The Phoenicians, nonetheless, not only functioned as purveyors of luxury and manufactured goods; increasingly, they also came to monopolize the vital trade in raw materials. By so doing they filled the demand for these basic materials in various lands of the Mediterranean (Cyprus, Italy, North Africa, Malta, southern France, Spain, and the Balearic Islands). Sardinia, rich in both copper and silver-bearing lead ores, may have become an important supplier of these metals, particularly since the western Mediterranean remained fully in a Bronze Age economy until well into the first millennium. Although some scholars have suggested that Sardinia served as an entrepôt in the transport of tin from Cornwall (England) or western Iberia to the eastern Mediterranean, in fact the Phoenicians would have more readily filled this (still hypothetical) role.

Are the Shardanu, then, simply one group of Phoenicians, known in first millennium Sardinia by their earlier ethnic name? The *Onomasticon* suggests that some Shardanu may have lived in the vicinity of Tyre during the eleventh century, and the Nora Stone confirms that other Shardanu dwelt in Sardinia by the ninth century. In addition, the Nora Stone makes reference to a person called "Pummay," thought to be Pygmalion, king of Tyre during 831–785. Although some regard such evidence as definitive, it is at best tantalizing and circumstantial; it establishes a very tenuous link between Shardanu and Sardinia across a period of almost three hundred years and a space of twelve hundred miles.



Nuraghi towers, Sardinia. In 1982, the University of California Sardinian Nuraghi Project launched an in-depth study of the more than seven thousand drystone buildings dotting Sardinia. GIOVANNI LILLIU, *LA CIVILTÀ NURAGILA* (1982)

and scholars speculate wildly on who exercised economic control over the trade that brought eastern Mediterranean goods and materials to central or western Mediterranean ports.

The history of archaeological exploration on Sardinia stands in contrast to the situation in the Aegean and eastern Mediterranean. In the east a focus on the complex, urban, literate cultures of the Bronze Age, together with deeply felt notions about the superiority of classical Greek and Roman civilization, promoted the widespread participation of foreign archaeologists. Because prehistoric Sardinia was regarded as a culturally less complex society, and because its unique stone monuments—*nuraghi*—were regarded as crude in comparison with the palaces of Minoan Crete (or even the temples of Malta), mainstream Mediterranean archaeologists shunned fieldwork on Sardinia. Even this attitude, however, failed to stifle interest in Sardinia's metal resources and in the ever-increasing number of copper oxhide ingots (of typically eastern Mediterranean shape) found on the island. Until very recently, however, this evidence had always been interpreted as the consequence of exploitation of Sardinia's resources by Aegean or eastern Mediterranean colonists, merchants, or metalsmiths. However, strong arguments can also be mounted for local production by indigenous miners, perhaps stimulated by demand from a wider, Late Bronze Age Mediterranean trade system.

The nature of island life during the Copper

Age and Early Bronze Age (about 2800–1500) is poorly documented in comparison with our knowledge of developments on Sardinia during the centuries between 1500 and 500 (the Nuragic period). The *nuraghi* are ubiquitous, often well-preserved features on the Sardinian landscape. Attempts to understand their cultural significance have been limited by inattention to the total social and spatial context in which these monumental towers were situated and by the extremely limited chronological information available. (The dates that exist rely chiefly on stratigraphic associations among Aegean, eastern Mediterranean, and Sardinian artifacts.) Some 7,000 *nuraghi* have been inventoried and mapped. Most are modest, single-tower structures, but about 2,000 are elaborate, impressive, multitower complexes that went through several building stages. They were long thought to have served military or defensive functions in prehistoric Sardinian society (e.g., fortresses, signal towers). However, the amount of domestic debris recovered in most excavated *nuraghi* suggest that they must have served as habitations, or perhaps, in times of danger, as fortified refuges for those who lived in the adjacent villages. There is still no evidence for economic specialization in the excavated *nuraghi* (e.g., potters, metalsmiths, or even soldiers) or for a postulated medieval-type system, with rustic lords and village peasants.

During a long period of occupation, abandonment, rebuilding, and use (from about 1800 BCE–1000 CE), *nuraghi* probably served a variety of domestic and other (defensive, pastoral, ceremonial) functions. Other types of civil or ceremonial architecture include tombs, wells, temples, and meeting houses. The period between about 1250 and 900 BCE witnessed the elaboration of many single-story towers into large, multitower complexes and the development of village settlements immediately surrounding them; it is, therefore, a time often regarded as the highpoint of Nuragic culture on Sardinia.

A few examples of Mycenaean pottery and a miniature ivory head of Mycenaean style arrived on Sardinia during the thirteenth century. Within a hundred years, Aegean-style pottery had become widespread (even if not in great quantities); it has been found at eight different

sites, four of which are situated on or very near the seacoast. Of these the Nuraghe Antigori archaeological site, on the south central coast, contains about 90 percent of the several hundred extant Aegean-style vessels or shards thus far recovered. In the eyes of specialists, most painted pottery vessels or shards appear to be local copies of more exotic imports. Aegean and other eastern Mediterranean artifacts or influence, especially in metallurgical products, may have figured as exotica to be emulated or exchanged by elites within an intra-island network. With the exception of the large number of Aegean-style (and a few Cypriot-style) shards at the Nuraghe Antigori, the exotic pottery is scattered randomly, in small numbers, among several sites around the island.

The distribution of metal finds in Sardinia is more widespread than exotic pottery but still lacks any patterning that might indicate centralized production or trade. Two types of copper ingots have been recovered in archaeological excavations: plano-convex (or “bun”) ingots and oxhide ingots (many of unknown provenance). The oxhide ingots are very similar in form and weight to those commonly found in the Aegean and eastern Mediterranean. Analyzed oxhide ingots (from fifteen sites) have a copper content more pure than that of the bun ingots and are very similar in composition to eastern Mediterranean ingots. Many of these oxhide ingots may be of Cypriot origin although, in principle, it is still possible that some were local products made to conform to a Mediterranean-wide standard of value.

Sound evidence exists for local metalworking activity (although no known site could be construed as a center for commercial-scale production): bronze and lead artifacts; bronzesmith's tools; molds for casting tools and implements; clay crucibles for melting ores; and several metal hoards recovered from Nuragic villages. This array of evidence for secondary melting and refining of copper provides reasonable support for primary metallurgical production. There is no need to postulate the presence of Mycenaean colonists or Cypriot metallurgical specialists in order to explain Sardinian copper production and trade (or, for that matter, to explain wheel-made pottery production or the distribution of other exotica). The frequent occurrence

of a 30–35 kilogram (66–77 pound) copper oxhide ingot in the Aegean, the eastern Mediterranean (Cyprus, Anatolia, the Levant), and the central Mediterranean (Lipari, Sicily, Sardinia) suggests an accepted standard for weight and purity and supports the possibility that all these areas were part of a broader Mediterranean trade system. If the oxhide ingots recovered on Sardinia were produced in Cyprus (as lead isotopic analysis suggests), they may represent nothing more than the economic response by Cypriot entrepreneurs to the collapse of the eastern Mediterranean trade system (about 1200) and their attempt to maintain a lucrative copper trade in the central Mediterranean in the face of the growing commercialization of iron in eastern markets. On Sardinia increased demand from and contact with the eastern Mediterranean may have stimulated the growth and importance of coastal centers. Such sites should reveal the clearest evidence for contacts with the Aegean world or Cyprus and—once excavated more extensively—should provide important new evidence for understanding the social, political, and economic dynamics of Nuragic culture.

LINKS TO THE ANCIENT NEAR EAST

Cuneiform and Egyptian documents, dated mostly to the second millennium, refer only sporadically to the major island polities of the Bronze Age Mediterranean. These texts are not only limited in number (compared to the total body of near eastern documentary material); they also treat diverse matters of limited historical value. Many of these documents seem to have little correspondence with the archaeological record of the island to which they refer. Whereas epigraphers and philologists have studied most of these documents at length, their concern with lexical, syntactic, or grammatical questions has often precluded a rigorous historical or cultural treatment. Nor have historians and archaeologists used textual materials in a suitably critical fashion.

Cultural associations between the islands and the mainland Near East are best demonstrated by archaeological materials, which show close

and probably intensive contacts with the Near East on the part of Cyprus and Minoan Crete during the Middle and Late Bronze Ages. The documentary evidence associated with the ethnic or geographic terms Akkhiyawa, Alashiya, Keftiu, Kaptaru, and Shardanu provides insight into other kinds of island-mainland contacts, most often economic or geopolitical in nature. The ethnicity of the merchants and mariners who conducted Mediterranean trade may be deduced from archaeological evidence or assumed from the evidence of personal names in documentary records. Together, these sources indicate that Semites, Hurrians, Anatolians, Egyptians, Minoans, Cypriots, and perhaps even Mycenaean Greeks were involved, but there is no acceptable way to determine who controlled or directed trade, particularly not in the individual sectors of the Mediterranean. A multifaceted trade system—including royal merchants, itinerant tinkers, and private individuals (entrepreneurs)—was one of the principal forces that linked Mediterranean island cultures to the ancient Near East.

BIBLIOGRAPHY

The Mediterranean

There are very few works, general or specialized, that treat the Mediterranean Sea and the Mediterranean islands as a cultural, or even geographic, unit. Among the books that succeed to varying degrees are: NANCY K. SANDERS, *The Sea Peoples: Warriors of the Ancient Mediterranean, 1250–1150 B.C.* (1978; rev. ed. 1985); DAVID H. TRUMP, *The Prehistory of the Mediterranean* (1980); and BARRY W. CUNLIFFE, ed., *Origins: The Roots of European Civilization* (1987). For later periods a useful reference work is KLAUS RANDBORG, *The First Millennium A.D. in Europe and the Mediterranean* (1991). A volume that goes far toward filling the need for a specialized, Mediterranean-wide synthesis of Bronze Age archaeology is C. MATHERS and S. STODART, eds., *Development and Decline in the Bronze Age Mediterranean* (1994). Two specialized articles that deal exhaustively with the earliest colonization of the Mediterranean islands are by JOHN F. CHERRY: "Pattern and Process in the Earliest Colonization of the Mediterranean Islands," *Proceedings of the Prehistoric Society* 47 (1981), and "The First Colonization of the Mediterranean Islands: A Review

of Recent Research," *Journal of Mediterranean Archaeology* 3, no. 2 (1990).

From a social and geographic perspective, the richest work ever written on the Mediterranean is by FERNAND BRAUDEL, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2 vols. (1972–1973). Volume 1 contains eloquent descriptions and discussion of the Mediterranean environment, climate, topography (islands, mainlands, boundaries), demography, and economics (trade, transport). Another book that richly portrays the natural history of the Mediterranean is DAVID ATTENBOROUGH, *The First Eden: The Mediterranean World and Man* (1987).

Cyprus and Alashiya

Still the most useful and informative cultural history of Cyprus is that by VASSOS KARAGEORGHIS, *Cyprus: From the Stone Age to the Romans* (1982). More recent and more specialized studies may be found in VASSOS KARAGEORGHIS, ed., *Archaeology in Cyprus, 1960–1985* (1985), and in EDGAR J. PELTENBURG, ed., *Early Society in Cyprus* (1989). The richest (albeit very specialized) volume ever published on the metallurgical industry in prehistoric Cyprus is by JAMES D. MUHLY, ROBERT MADDIN, and VASSOS KARAGEORGHIS, eds., *Early Metallurgy in Cyprus, 4000–500 B.C.* (1982). Two specialized studies concerned with the identification of Alashiya have also been published: LENNART HELLBING, *Alasia Problems*, *Studies in Mediterranean Archaeology*, vol. 57 (1979), and R. S. MERRILLEES, *Alashia Revisited*, *Cahiers de la Revue Biblique* 22 (1987). Both volumes contain errors of fact or omissions, and should be read in conjunction with the review article (for Hellbing) and book review by A. BERNARD KNAPP: "Alashiya, Caphtor/Keftiu, and Eastern Mediterranean Trade: Recent Studies in Cypriote Archaeology and History," *Journal of Field Archaeology* 12, no. 2 (1985), and *Bibliotheca Orientalis* 47, nos. 5–6 (1990).

Crete, Thera, and Keftiu/Kaptaru

The best-known and still one of the most dynamic studies of the (Early) Bronze Age Aegean and Cyclades is that by COLIN RENFREW, *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C.* (1972). There is no counterpart to Vassos Karageorghis's excellent general study on Cyprus, and in order to extract an overall view of Aegean prehistory one has to consult instead a wealth of more specialized studies. Among these, mention may be made of the following: JACK LEE DAVIS and JOHN F. CHERRY, eds., *Papers in Cycladic Prehistory*, UCLA Institute of Archaeology Monograph,

no. 14 (1979); OLGA KRZYSZKOWSKA and LUCIA NIXON, eds., *Minoan Society: Proceedings of the Cambridge Colloquium 1981* (1983); and J. A. MACGILLIVRAY AND R. L. N. BARBER, eds., *Contributions to a Workshop on Cycladic Chronology* (1984). An important study by S. W. MANNING, "The Emergence of Divergence: Bronze Age Crete and the Cyclades," is in C. MATHERS and S. STODDART, *Development and Decline* (1994, noted above). Finally, a superb recent overview of the nature of archaeology in the Aegean is ANTHONY M. SNODGRASS, *An Archaeology of Greece: The Present State and Future Scope of a Discipline* (1987).

MARTIN BERNAL's controversial study, *Black Athena: The Afroasiatic Roots of Classical Civilization* (two of four projected volumes appeared in 1987 and 1991) maintains that Egyptian and Levantine cultural and linguistic influences on the Aegean world began early in the second millennium BCE and played a central role in the formation of Greek civilization. Bernal's challenge to the accepted orthodoxy about the nature of second-millennium Aegean–near eastern relations will force scholars to reconsider certain concepts that have served to propagate European ethnocentrism in interpreting the past, but his notions of Egyptian–Levantine colonizations in the Aegean are quite hypothetical and confuse the nature of economic and ideological processes at work in the Bronze Age Mediterranean.

For Thera, the standard early excavation reports by S. MARINATOS (*Thera I–VII*) have been supplemented and filled out by CHRISTOS DOUMAS, *Thera: Pompeii of the Ancient Aegean: Excavations at Akrotiri* (1983). In addition, these volumes are well complemented by the proceedings of three major international congresses devoted to the study of Thera archaeology, chronology, and vulcanology (earth sciences). All are entitled *Thera and the Aegean World*. TAW I (1978) and II (1980) were edited by CHRISTOS DOUMAS. The three volumes of TAW III (1990) were edited by D. A. HARDY (general editor) and a host of subeditors.

There are two main studies devoted to Keftiu/Kaptaru. The first and more authoritative is JEAN VERCOUTTER, *L'Égypte et le monde égéen préhellénique*, Bibliothèque d'Étude, no. 22 (1956). The second (which should be read together with the review article by A. B. KNAPP noted under Alashiya) is J. STRANGE, *Caphtor/Keftiu: A New Investigation* (1980). Strange's identification of this ancient place-name with Cyprus has very serious drawbacks and limits the usefulness of the study; nonetheless, the collection and translation in one volume of all published references to Keftiu/Kaptaru is most helpful.

On the Minoan style paintings in Egypt, see MANFRED BIETAK, "Minoan Wall-Painting Unearthed at Ancient Avaris," in *Egyptian Archaeology* 2 (1992).

Rhodes and Akkhiyawa

The classic and still very useful historical–archaeological overview of Bronze Age Rhodes is by ARNE FURUMARK, "The Settlement at Ialysos and Aegean History c. 1550–1400 B.C.," *Opuscula Archaeologica* 6 (1950). A detailed (pottery-oriented) description of prehistoric archaeology on Rhodes is provided in CHRISTOPHER B. MEE, *Rhodes in the Bronze Age* (1982). A series of specialist studies has been published in SOREN DIETZ and IOANNES PAPA-CHRISTODOULOU, eds., *Archaeology in the Dodecanese* (1988). Two recent studies on the Akkhiyawa problem, which support the identification of Akkhiyawa with the Mycenaeans, have been published by a Hittite scholar, TREVOR R. BRYCE: "The Nature of Mycenaean Involvement in Western Anatolia," *Historia* 38, no. 1 (1989), and "Ahhiyawans and Mycenaeans—An Anatolian Viewpoint," *Oxford Journal of Archaeology* 8, no. 3 (1989). Other recent viewpoints are elaborated in H. G. GÜTERBOCK, M. MELLINK, and E. T. VERMEULE, "The Hittites and the Aegean World," *American Journal of Archaeology* 87 (1983), and A. ÜNAL, "Two Peoples on Both Sides of the Aegean Sea: Did the Achaeans and Hittites Know Each Other?" *Bulletin of the Middle Eastern Culture Center in Japan* 3 (1991). A very useful study that provides details of all the relevant Hittite texts is GEORGE L. HUXLEY, *Achaeans and Hittites* (1960).

Sardinia and the Shardanu

The most useful general English-language study of the Nuragic period in Sardinia is that by FULVIA LO SCHIAVO, *Nuragic Sardinia in Its Mediterranean Setting* (1985). This will soon be supplemented by GARY D. WEBSTER's masterful synthesis, *The Prehistory of Sardinia, 2300 to 500 B.C.* (1995). A group of specialist studies in Sardinian archaeology and metallurgy may be found in a series entitled *Studies in Sardinian Archaeology*; the first four volumes with this title were edited by MIRIAM S. BALMUTH (volume 1, 1984, was coedited with ROBERT J. ROWLAND, JR.), while the fifth, dedicated to Professor Balmuth, was edited by R. H. TYKOT and T. K. ANDREWS (1992). Volume 2 (1986) is subtitled *Sardinia and the Mediterranean*, and volume 3 (1988) is subtitled *Nuragic Sardinia and the Mycenaean World*. Another very useful, specialized study of the *nuraghi* is GARY WEBSTER, "The Functions and Social Significance of Nuraghi: A Provisional Model," in *Acta Instituti Romani Regni Sueciae*, edited by B. SANTILLO FRIZELL (1991). The only study that treats the Shardanu in any detail is that by R. H. TYKOT, "Sea Peoples in Etruria? Italian Contacts with the Eastern Mediterranean," in *Etruscans*, edited by JANE WHITEHEAD, vol. 4 (1991). The two in-

Island Cultures

scriptions from Nora mentioned in the text were studied by FRANK M. CROSS in "An Interpretation of the Nora Stone," *Bulletin of the American Schools of Oriental Research* 208 (1972), and "The Oldest Phoe-

nician Inscription from Sardinia: The Fragmentary Stele from Nora," in *"Working with No Data": Semitic and Egyptian Studies Presented to Thomas O. Lambdin*, edited by DAVID M. COLOMB (1987).

SEE ALSO **Khattushili III, King of the Hittites** (Part 5, Vol. II); **Troy: Legend and Reality** (Part 5, Vol. II); and **Sea and River Craft in the Ancient Near East** (Part 6, Vol. III).

Distant Shores: Ancient Near Eastern Trade with South Asia and Northeast Africa

D. T. POTTS

VIRTUALLY ALL OF THE necessities of life in the ancient Near East were available locally. Cereals, date palms, wild and domesticated animals for sustenance; animal hides, fur, or fleece for the manufacture of clothing; clay for producing pottery; soil and water for brick making; and basic woods and stone for construction were found throughout western Asia and North Africa. Contrary to popular opinion, even southern Mesopotamia, which has often been characterized as lacking any natural resources other than date palms, water, clay, and mud, possessed a source of wood in the "gallery forest" that lined portions of the Euphrates, as well as sources of building stone, as the limestone outcrops not far from the great city of Uruk (modern Warka, biblical Erech) attest. Yet when we examine what has survived of ancient near eastern craftsmanship, that is, those items which were not strictly utilitarian, then it becomes instantly apparent that, above and beyond the ever-present, basic needs of society, a good many natural resources were lacking in the region. Precious and base metals, semiprecious stones, exotic woods, shells, ivory, spices, aromatics, and many other items were

only obtainable far from the centers of political, religious, and economic power in Egypt and Mesopotamia. Moreover, while considered luxuries from our point of view these goods were necessary for the maintenance of the prestige and exalted position of the great royal palaces and temple complexes. To this must be added the role played by many of them in adorning, making offerings to, and in all senses honoring and worshiping the deities of the ancient Near East. The expense and risk involved in procuring these rare materials, however, ensured that their acquisition remained, almost exclusively, an affair of kings and queens, powerful governors, and wealthy temple estates. Even when merchants were involved, some of whom might appear at first glance to have acted in the role of "private citizens," they often turn out, on closer inspection, to have been sponsored and financed by the great institutions. Like the factor on a highland laird's estate in Scotland, the ancient near eastern merchant's role was often that of an agent or procurer-general to his particular patron.

Over the centuries, both finished products and



raw materials flowed into Egypt and Mesopotamia from a variety of areas. Undeniably, certain types of exotic goods, such as lapis lazuli from Badakhshan Province in Afghanistan, reached Egypt and Mesopotamia via a complicated network of overland routes. (See “Overland Trade Routes” earlier in the present volume.) But many of the most desirable foreign materials arrived by sea, originating in the lands bordering on that vast belt of water that links, rather than divides, east Africa, the Arabian Peninsula, Iran, and the Indian subcontinent. In the fifth century BCE the Greek historian Herodotus christened this body of water the Erythraean Sea, and although we identify it today by a half-dozen names—including, from west to east, the Red Sea, Gulf of Aden, Indian Ocean, Arabian Sea, Gulf of Oman, and Persian or Arabian Gulf—our modern, particularistic nomenclature should not obscure the fact that movement throughout these waters was probably always more open and free-flowing than otherwise. It is to this zone, sometimes considered the southern frontier of ancient near eastern terra cognita, that we restrict our attention in this essay.

DILMUN, MAGAN, AND MELUKKHA

If a Mesopotamian scribe in the third or early second millennium BCE had been asked what countries lay alongside the Lower Sea to the south of Babylonia, he would undoubtedly have answered with a triad of names uttered consistently in the same order: Dilmun, Magan, and Melukkha (Meluhḫa). Even as late as the seventh century, we find that when the Neo-Assyrian monarch Esarhaddon sought to surpass the already grandiose title “king of kings,” he styled himself “king of the kings of Dilmun, Magan, and Melukkha.”

In literary texts Dilmun, Magan, and Melukkha take on a wondrous, almost mythopoetic character. In the Sumerian myth *Enki and the World Order*, Enki “cleaned and purified the land of Dilmun” and declared, “Let the mooring posts be placed for the Dilmun boats! Let the Magan-boats extend to the horizon!” Further, he cried, “Let the *magilum*-boats of Melukkha transport gold and silver for exchange!” In the

myth *Enki and Ninkhursag*, moreover, Dilmun is extolled as being “pure,” “clean,” and “bright” and endowed with “water of abundance.” Furthermore Enki proclaims to his daughter Ninsikila, the tutelary goddess of Dilmun, “Dilmun shall be the house of the banks and quays of the country!” There are additional references that describe the resources of these lands:

The land Tukrish shall transport gold from Kharali, lapis lazuli, and bright . . . to you. The land Melukkha shall bring carnelian, desirable and precious, sissoo-wood from Magan, excellent mangroves, on big-ships! The land Markhashi will [bring] precious stones, *dušia*-stones, [to hang] on the breast. The land Magan will bring copper, strong, mighty, diorite-stones, *u*-stones, *šumin*-stones to you! (*Enki and Ninkhursag*, lines 1–9. Translated by B. Alster.)

The identification of these last-mentioned stones is uncertain.

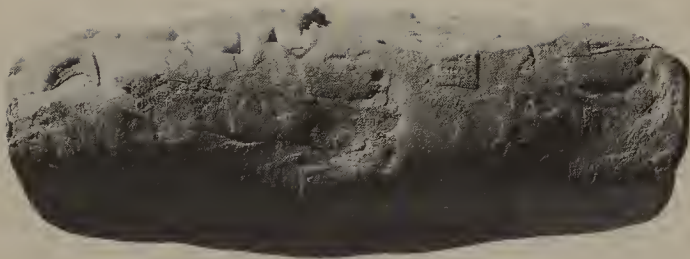
Outside of the literary repertoire, however, enough royal and, particularly, economic texts exist in which transactions with these same countries are mentioned to convince us that they were most assuredly real countries in contact with Mesopotamia.

Dilmun

Centered on the Bahrain archipelago, Dilmun was the closest and in many ways the most important southern partner of Mesopotamia. This was not, however, due to a rich tableau of natural resources, for indeed Bahrain and the adjacent mainland of Arabia are really only rich in dates, fish, and pearls. Dilmun’s importance lay rather in its role as a broker, for through it were channeled goods from much farther afield. In the late Early Dynastic period (about 2500), Ur-Nanshe, king of the Sumerian city-state Lagash, “had ships of Dilmun transport timber from foreign lands” to his capital (modern Tell al-Hiba), just as a later governor of Lagash, named Gudea, did in the mid twenty-first century. In the early twenty-fourth century, Lugalbanda and Urukagina, two kings of Lagash, imported copper from Dilmun and paid for it with wool, silver, fat, and various milk and cereal products. Old Akkadian texts contain a number of references to Dilmun boats, some of which were surely

engaged in the transport of goods from Dilmun to Lagash, Umma (modern Tell Jokha), and other cities in southern Mesopotamia. It was not unknown at Lagash to dedicate bronze models of so-called Dilmun boats to the goddess Nanshe in commemoration of a successfully completed journey of this kind.

Dilmun’s particular character was expressed in economic transactions by the use of an immediately identifiable and at the same time highly decorative type of circular stamp seal. In the ancient Near East both stamp and cylinder seals were employed for the witnessing of an act, the validation of a document, the confirmation of an agreement, the identification of a party to a transaction, the certification of the accuracy of a stated quantity, and the protection of the rights of an individual or institution. While the cylinder seal was long the favored means for sealing in Mesopotamia, different types of seals were developed in other regions, often with a form that made their impressions immediately recognizable. This was the case in Dilmun, where the round stamp seal of steatite with a raised, perforated back (or boss as it is usually called) was common. Examples of these seals have been found by the hundreds on Failaka, a small island off the coast of Kuwait where a satellite settlement of Dilmunites from farther south was established early in the second millennium. Many seals are also known from Bahrain itself, where they have been found in the large settlements at Qalat al-Bahrain and Sar and in hundreds of grave mounds excavated in the northern portion of the island. That these seals were used in economic transactions is proven by the discovery of two important tablets bearing their impressions. One of these tablets was found at Susa, and dates to the first half of the second millennium. It is a receipt for goods, including ten minas of copper (about eleven pounds or five kilograms). The second tablet, in the Yale Babylonian Collection, is dated to the tenth year of Gungunum of Larsa (modern Tell Senkereh), that is, around 1925, and records a consignment of goods (wool, wheat, and sesame) prior to a trading voyage that almost certainly had Dilmun as its goal. Dilmun seals characteristically depict two men drinking what could be beer through straws, or two or three prancing gazelles. Unidentified objects, perhaps altars and standards, are also commonly



Tablet with seal impression, dating to the tenth year of Gungunum of Larsa, circa 1925 BCE, from the Persian Gulf. The tablet attests to the administrative function for which exported seals were used. YALE BABYLONIAN COLLECTION, YALE UNIVERSITY

depicted, as are palm trees, bulls, lyre players, and both solar and lunar motifs. (See “Archaeology and Artifacts of the Arabian Peninsula” in Part 5, Vol. II, for an illustration of a Dilmun stamp seal and “Cylinder Seals and Scarabs in the Ancient Near East” in Part 7, Vol. III, for a discussion of cylinder seals.)

The most extensive group of texts dealing with the import of copper from Dilmun, however, dates to the period extending from about 1900 to 1875. The texts, which come from Ur, record the activities of a merchant named Ea-nasir, who is identified as one of the *ālik Tilmun*, or “Dilmun traders.” Over a dozen texts naming Ea-nasir, most of them letters, were found by Sir Leonard Woolley in the Isin-Larsa period residential quarter at Ur in what is thought to have been Ea-nasir’s house. It is likely that the letters, originally sent to Ea-nasir while he was in Dilmun, that is, on Bahrain, were brought back to Ur by Ea-nasir when he ceased being active as a copper broker.

For the most part Ea-nasir paid for Dilmun copper with the textiles and silver that he received from the great Nanna-Ningal temple complex at Ur. In contrast, a badly damaged, slightly later text from the reign of the Larsa monarch Rim-Sin (around 1820–1775) reveals the palace’s direct involvement, for the king himself was a principal in the copper trade conducted by another merchant named Ur-Nanna. After the conquest of Ur by Hammurabi (about 1775) however, this once lively trade seems to have come to a halt, or perhaps it shifted away from Ur to another city where the documentary evidence of it has yet to be discovered. In any case, the only mention of Dilmun copper that postdates

this period comes from the fifth year of the reign of Samsu-iluna (about 1750), when Dilmun copper is mentioned in the same text as copper from Alashiya (Cyprus). This is both the latest attestation of Dilmun copper and the earliest attestation of Cypriot copper in Mesopotamia.

Parallel to the maritime trade between Ur and Dilmun that characterized the Isin-Larsa period was the existence of trade between Mari, on the middle Euphrates (in what is now Syria), and Dilmun. The Mari texts contain several references to Dilmunite caravans, but we do not know whether these caravans originated in eastern Arabia and went the entire way to Mari by land, or whether goods were transported by sea to a city such as Ur, and thence overland to Mari by caravan. Evidence of the latter mode of travel is provided by one text which mentions a caravan of Dilmunites heading for Mari that is said to have been delayed at Babylon as a result of a dispute concerning a well. That this trade was considered important is shown by the personal involvement of the king of Assyria, Shamshi-Adad (about 1825–1775), and his son, Yasmakh-Adad. Moreover, one text from Mari records a certain amount of “oil for the king (*lugal*) of Dilmunites.” We do not know, however, if the Dilmunite king was at Mari himself, or whether the oil was meant to be delivered to him by a returning caravan.

References to the import of copper and timber from Dilmun, however, should not send us looking for hitherto unidentified sources of these two commodities on Bahrain itself because the primary economic function of Dilmun, seen from the Mesopotamian point of view, was as purveyor of goods coming from more distant sources. As the nature of the timber coming from Dilmun is unspecified, it is difficult to judge where it may have originated, but there is no doubt that the copper came principally from the Oman Peninsula, ancient Magan.

Magan

In the so-called Lipshur litanies, a collection of incantations for releasing people from bans, Magan is called “the home of copper.” Even though copper was rarely mined after the Middle Ages (from which time a number of important sources preserving details of mining reg-

The Location of Dilmun

Greek and Latin sources concerned with the Arabian Gulf contain a considerable amount of information about a large island called Tylos/Tylus, and a smaller, adjacent island called either Arados/Aradus or Tylos minor. Thanks to the survival up to this day of the toponym Arad on the second largest of the Bahrain islands, there is no doubt that ancient Arados and modern Muharraq are one and the same. Therefore, the main island of Bahrain can be confidently identified with ancient Tylos. As early as 1880 the great French Assyriologist Jules Oppert (1825–1905) had suggested that Greek Tylos preserved the more ancient name of Tilmun/Dilmun. This possibility was more recently explored by the German philologist Wilhelm Eilers (1906–1989), who showed that the Akkadian labial *m* was often replaced by *w* in Aramaic names derived from Akkadian. From Akkadian Tilmun, he posited an Aramaic form **Tylwos* from which Greek Tylos and later Syriac TLWN were descended.

By and large we can accept the identification of

ancient Dilmun with the Bahrain islands, except for the early periods (late Uruk through Early Dynastic, about 3400–2350), when an absence of archaeological material on Bahrain showing links to Mesopotamia and an abundance of such finds on the nearby east Arabian mainland suggest that the location of the original Dilmun was in what is today the Eastern Province of the Kingdom of Saudi Arabia. By the late third millennium, however, the center of commercial and probably political power in the region had shifted to Bahrain, when it is likely that the name became displaced as well.

A parallel for this kind of change in names is afforded by the same region in the more recent past. In early Islamic times the east Arabian mainland was called Bahrain, and this term was applied to the islands only sporadically before the thirteenth century. Thereafter, of course, it became linked exclusively with the islands that continue to bear the name.

ulations have survived), many nineteenth- and early-twentieth-century travelers to Oman came back with reports of old and disused copper mines. Since the early 1970s hundreds of mining and smelting sites, as well as massive slag concentrations, have been documented and studied all over the interior of Oman and the northern United Arab Emirates (especially in Fujairah). Excavations at Maysar in the Wadi Samad (sultanate of Oman) have revealed not only the various stages of ore crushing and copper refining, but also the largest hoard of bun-shaped copper ingots known anywhere in the Near East.

Magan first appeared clearly on the Mesopotamian horizon in the Old Akkadian period, when ships from Magan were said by Sargon of Akkad to have docked at the quay of his capital. Mesopotamian relations with Magan soon became belligerent. The “Standard Inscription” of the Old Akkadian king Manishtushu (circa 2250) preserves an account of the king’s campaign against an unnamed country that involved crossing the Lower Sea (Arabian Gulf) in a fleet of ships from the coast of Sherikhum (modern Iran); fighting a coalition of thirty-two cities and their lords; advancing to the “metal mines”; quarrying black-

stone in the mountains; transporting the stone by ship to the capital Akkad; and finally fashioning a statue of Manishtushu for the god Enlil. The record of a later campaign by Naram-Sin in which Magan is specifically mentioned is so similar that there can be little doubt that Manishtushu’s attack was directed against Magan as well. The hard, black stone of which Manishtushu and Naram-Sin made their statues (usually olivine-gabbro but often identified incorrectly as diorite) abounds in the mountains of Oman, as do metal mines, and when these facts are combined with Manishtushu’s account of crossing the Lower Sea they leave little doubt that his efforts were directed against the Arabian mainland.

Magan was also sought after as a source of black stone (diorite or olivine-gabbro) by Gudea of Lagash (about 2150–2125) for the many statues he had fashioned of himself for the glory of Ningirsu, the patron deity of Lagash. Not surprisingly, therefore, the Sumerian literary text *Lugal-e* identifies the “mountain of Magan” as the source of a stone called NA₄.ESI in Sumerian, usually translated as diorite. As noted above, both olivine-gabbro and diorite are abundantly available in the mountains of Oman, but whether

The Location of Magan

Since the late nineteenth century, scholars have been puzzling over the location of the land known as Sumerian Magan, Akkadian Makkan, Elamite Makkash, and Old Persian Makā. Generally speaking, confusion has arisen over two issues. Quite apart from what the Old Akkadian and Ur III texts tell us, it is clear from Neo-Assyrian sources that the name as used in the Assyrian royal inscriptions denoted part of Egypt or Nubia. On the other hand, an argument has often been made, on the basis of the Sumerian, Elamite, and Old Persian sources, for identifying the modern Makran coast (currently divided between Iran and Pakistan) with Magan, based on the suggested etymology “Makā-kirān,” “coast of the Makā,” which became contracted to “Makran.”

Much later, in the Neo-Assyrian and Achaemenid periods, we find a direct attestation of Oman. We learn

that in 640 a king named Pade, who reigned in the country of Qadē, brought tribute to the Assyrian monarch Assurbanipal. The name Qadē brings to mind the *gens Cadaei/Cadei/Chadai* who, according to the Roman scholar Pliny, inhabited part of southeastern Arabia, but it is equally important to note that Old Persian inscriptions from the reign of Darius I (521–486) give Qadē as the Akkadian equivalent of Old Persian Makā, suggesting that this name had superseded Akkadian Makkan (now applied to Egypt) by the seventh century. If we return to the Assurbanipal text, we find that Pade is said to have dwelled in a city called *Iz-ki-e* in Qadē, and there is little doubt that this is identical with the Omani town of Izki, said in local sources to be the oldest town in Oman. This clearly points to the identification of Old Persian Makā with Oman.

the wood that Gudea says he brought from Magan was native, or came from further east, we cannot say. Slightly later, sometime after 2100, we also learn that Ur-Nammu, the founder of the Third Dynasty of Ur, reestablished the apparently interrupted trade with Magan, and throughout the Ur III period (about 2100–2000) we find a sizable number of references to trade between Ur and Magan with comparatively little mention of Dilmun and Melukkha. This was handled by, among others, the merchant Lu-Enlilla who, like Ea-nasir in his dealings with Dilmun, worked on behalf of the powerful Nanna-Ningal temple complex at Ur.

In the Ur III period, Magan copper was procured in exchange for raw wool, finished garments, sesame oil, hides, and plant products. It is noteworthy, however, that in the cuneiform texts the wool and finished garments sent to Magan were described as being of inferior quality. In addition to copper, such items as ochre, semiprecious stones, and ivory were also acquired in Magan by Lu-Enlilla. It is almost absolutely certain, however, that these last two categories of goods originated further east, and, like the copper of Dilmun, were not indigenous to Magan. For ivory, in particular, we must look to the Indian subcontinent, and this brings us to a

consideration of a third important place-name, Melukkha.

Melukkha

During the Old Akkadian and Ur III periods, in the last third of the third millennium, Melukkha was certainly one of the most easterly countries in contact with Babylonia. Melukkha was a source of wood (including a black wood thought to have been ebony), gold, ivory, and carnelian. Whether all of these products were native to Melukkha, or whether some were merely transshipped via Melukkha from farther afield, we do not know. That Melukkha was accessible by sea is made clear by the aforementioned inscription of Sargon of Akkad in which he boasts that ships from Dilmun, Magan, and Melukkha docked at the quay of his capital Akkad. However, when we read that lapis lazuli was also acquired from Melukkha by Gudea, and when we recall that the only source of this highly desirable, semiprecious stone was in Afghanistan, then it indeed appears likely that not everything said to come from Melukkha in Mesopotamian sources was necessarily native to the region.

The location of Melukkha has been much discussed, but for a variety of reasons the consensus

The Harappan Civilization

On 20 September 1924, the director-general of archaeology in India, Sir John Marshall, published an article in the *Illustrated London News* entitled "First Light on a Long Forgotten Civilization." Marshall reported discoveries made by the Indian archaeologist R. D. Banerji in 1921–1922 at the site of Mohenjo-Daro (Sind Province, Pakistan), near the banks of the Indus River. Until that time the earliest fixed point in Indian history had been the invasion of Alexander the Great's army in 326. Virtually overnight the threshold of Indian antiquity was pushed back more than two thousand years and the Harappan civilization of the Indus Valley, as it came to be called after the important site of Harappa, took its place alongside Shang China, Sumer, and pharaonic Egypt as the fourth great riverine civilization in the Old World.

Only a week after Marshall's article appeared, the British Assyriologist A. H. Sayce published an excited commentary in which he speculated on the chronological and cultural relations between the Harappan civilization, early Elam, and Sumer, inaugurating a discussion that has continued unabated to this day. Yet despite periodic claims that the "idea of civilization," as Sir Mortimer Wheeler wrote, "came to the Indus from the Euphrates and the Tigris," it is surely the distinctive character of the Early or Pre-Harappan, Mature Harappan, and Post-Harappan remains discovered during the past seventy years that is more striking than any dependence upon or similarity to those of foreign cultures. Excavations in India and Pakistan at countless sites have revealed a civilization with a technologically sophisticated ceramic industry; a sophisticated architectural tradition capable of constructing enormous public and private buildings out of mass-produced, baked bricks; an abundantly represented if as yet undeciphered script; a standardized system of weights and measures; a sophisticated metallurgical technology; a highly developed level of craftsmanship in the working of semiprecious stones, including carnelian; and a widespread technique of sealing using beautifully carved, square stone stamp seals.

A lengthy prehistoric sequence has been established at the important site of Mehrgarh in Pakistani Baluchistan, where an aceramic occupation beginning around 7000 BCE that formed the foundation for the later ceramic Neolithic and Chalcolithic cultures in the region has recently been documented. Despite innovations and changes in the prehistoric sequence of the greater Indus Valley, there is an essential thread of unity and a strong stamp of cultural identity through-

out that underscores the essentially indigenous, deeply rooted nature of Indian civilization. While points of contact with other regions are attested, they can hardly have accounted for the strength and individuality of civilization in the subcontinent.

By the middle of the third millennium, what has come to be known as the Mature Harappan period (about 2500–1900) began, and it is here that we witness the true flowering of Harappan civilization. It was during this period that Harappan settlement reached its greatest territorial extent, with the foundation of new towns as far north as Shortugai in Afghanistan and the establishment of maritime contacts extending to Babylonia, Elam, Bahrain, and the Oman Peninsula. A sprinkling of finds of undoubted Harappan manufacture outside the Indus Valley was one result of these far-flung enterprises. For instance, the distinctive square seals of the Harappan civilization have been found in Mesopotamia and Iran at Kish (modern Tell Ingharra), Ur, Tell Asmar, Nippur (modern Nuffar), and Susa; Indus seal impressions are known from Umma (Tell Jokha) and Tepe Yahya. Unmistakably Harappan cubical weights of banded chert (based on a unit of 13.63 grams) are known from a number of sites located around the perimeter of the Arabian Gulf, including Susa, Qalat al-Bahrain, Shimal (Ras al-Khaimah), and Tell Abraq (Umm al-Qaiwain). An inscribed Harappan shard has been found at Ras al-Junayz, the southeastern extremity of the Oman Peninsula, and Harappan pottery has been found at several sites throughout Oman and the United Arab Emirates (for example, Ras al-Junayz, Asimah, Maysar, Hili 8, Tell Abraq, and perhaps Shimal).

On the other hand, it was not just goods that moved around. A small number of typical Persian Gulf stamp seals found in both Mesopotamia and the Gulf region bear short inscriptions in the Harappan script that are thought to represent the names of acculturated Harappans living in the region. A "Melukkhana village" in the territory of the ancient city-state of Lagash, attested in the thirty-fourth year of the reign of Shulgi (2060), may have been a settlement of Harappans, if the identification of Melukkhana with the civilization of the Indus Valley is correct.

But while all of these finds attest to the movement of Harappans into Mesopotamia and the Gulf area, there is little evidence of a Sumerian, Akkadian, or Babylonian presence in the Indus Valley. Nonetheless, evidence is steadily accumulating that points to constant interaction between the Iranian plateau, Baluchistan, and the Indus Valley, and be-

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tween all of these regions and the Bronze Age civilization of Central Asia centered in what is today known as Turkmenistan, northern Afghanistan, Uzbekistan, and Tajikistan. Ceramics, stone objects, bronzes, and seals all attest to regular and intensive contacts between these regions and the Indo-Iranian borderlands during the late third and early second millennia. Whether the southward spread of central Asian material culture is linked to the diffusion of the Indo-European languages is one of the most important and controversial questions raised by this exciting new subfield in Old World archaeology. What implications such movements may have had for the decline of ur-

ban society in the Indus Valley after about 1900 and on the appearance of the Indo-Aryans are topics that are already being addressed by archaeologists and historians concerned with this area. It is often suggested that the language of the undeciphered Harappan inscriptions may belong to the Dravidian family (a non-Indo-European group of languages such as Tamil and Brahui) and many scholars believe that the population of the Harappan civilization represented that indigenous, non-Aryan element that was eventually defeated and for all intents and purposes driven to extinction by the heroes of Vedic literature.

favors the Indus Valley. If this is correct, then it is likely that the wood "from foreign lands" imported from Dilmun by Ur-Nanshe, as well as the wood with which Gudea adorned the temples of Lagash, originated in India. In the modern era the western coastal region of the Indian subcontinent, like the east coast of Africa, has been an important source of woods (for example, teak) used both in house and boat building throughout the countries bordering the Indian Ocean, Arabian Gulf, and Red Sea. By the same token, the Ur III references to objects made of ivory, said to come from Melukkha, would then apply to native Indian ivory. An inheritance document from the tenth year of Rim-Sin, king of Larsa (around 1810), makes reference to an ivory vessel from Dilmun, and ivory objects have been found in graves on Bahrain. These were no doubt made of Indian ivory as well.

That the language of Melukkha was unintelligible to an Akkadian or Sumerian speaker is clearly shown by the fact that, on his cylinder seal, the Akkadian functionary Shu-ilishu is identified as a "Melukkha translator." If one accepts the identification of Melukkha with the Harappan civilization in India, then it follows that the language which Shu-ilishu could translate is the language known to us largely on the basis of the inscribed, square stamp seals found by the hundreds at the large metropolitan centers of the Indus Valley, such as Mohenjo-Daro, Chanhudaro, and Harappa, and in smaller numbers at many other sites. A handful of such seals, along with etched carnelian beads, dice, figurines, and

various other small objects of obvious Harappan origin, have been found at sites in Mesopotamia, where they are usually interpreted as a reflection of contact between Babylonia and the Indus Valley. Just as significant, however, is the testimony of a toponym in the territory of Lagash during the Ur III period that may be translated literally as "Melukkha village." This may represent a settlement of people from the Indus Valley, and it is equally possible that a group of eleven stamp seals, belonging to the so-called Persian Gulf group (the earliest stamp-seal group known in the Gulf region), may have belonged to Harappan residents in Dilmun and Babylonia. These seals are distinguished by the fact that they all bear short Harappan inscriptions, possibly personal names. The fact that the precise sign sequences in these inscriptions are never attested on seals found in the Indus Valley itself has led some scholars to suggest that the names represented are not pure Harappan ones. It is conceivable that these sign sequences represent Babylonian or Dilmunite names of acculturated Harappans or people originally of Harappan descent. The same may apply to a short Harappan inscription engraved on a prism-shaped, steatite stamp seal found in a grave at Hajjar, on Bahrain. In this connection it is also interesting to note that the word "Melukkha" appears occasionally as a personal name in cuneiform texts of the Old Akkadian and Ur III periods.

Recent discoveries also point to an extensive Harappan presence in the Oman Peninsula. A mud-brick storeroom containing a large amount

The Location of Melukkha

In the Sumerian myth *Enki and Ninkhursag*, Melukkha figures as a supplier of ivory. Although much if not most of the early ivory found in Mesopotamia originated in the Indian subcontinent, we cannot be certain that the ivory of Melukkha did not come from farther afield, just like the copper and timber of Dilmun. Other literary attestations of the name are more specific, however. In the "Lipshur litanies" we read, "Melukkha . . . is the land of carnelian" (Sumerian NA₄.GUG, Akkadian *sāmtu*). One of the hallmarks of the Harappan civilization, the ancient civilization of the Indus Valley, was its extensive use of carnelian beads, particularly those decorated with white bands, achieved by a process of chemical etching.

Several Assyriologists and Sanskrit scholars have suggested that the Sanskrit term *mleccha* (compare Pali *milakkha*), meaning "(non-Vedic/Aryan) barbarian," may reflect the name of the original, pre-Aryan inhabitants of India transmitted in Sumerian and Akkadian as Melukkha. The pre-Vedic population of the region is often thought to have spoken a Dravidian language (perhaps represented by the terse inscriptions found on the thousands of stamp seals known from the area) and were considered alien barbarians by the Vedic Aryans who eventually displaced the majority of them.

of bitumen, possibly destined to caulk reed or wooden boats, has been excavated at Ras al-Janayz on the southwest coast of Oman. The same complex also yielded painted Harappan pottery, as well as a fragment of a vessel with part of an incised Harappan inscription. At Asimah, in the interior of northern Ras al-Khaimah, more than half of the pottery recovered from a recently excavated settlement was Harappan, while at nearby Shimal a grave of the early second millennium contained a large painted jar thought to be Harappan, as well as a highly characteristic, polished cubical chert weight of Harappan type. Farther south, two Harappan weights have been found in a late-third-millennium context at the large settlement of Tell Abraq in Umm al-Qaiwain. Thus, all of the evidence points to the presence of Harappans in Mesopotamia and the Arabian Gulf during the late third and early second millennium, and it stands to reason that at least some of them contributed to the growth and maintenance of long-distance trade between the regions.

EGYPT AND PUNT

To the best of our knowledge, the ancient Egyptians had little contact with the peoples of western Arabia before the Ptolemaic and Roman peri-

ods. This being the case, it should come as no surprise to find that maritime contacts with India or the Arabian Gulf were nonexistent, and the question of early (late fourth/early third millennium) contacts with Mesopotamia can probably be better tackled by examining the means of overland travel through Syria and Palestine rather than by postulating a sea route around Arabia for which no evidence whatsoever can be adduced.

The only region to which the Egyptian pharaohs seem to have regularly sent expeditions by sea was the land called Punt (*pwnt*). It was here that the Egyptians acquired their frankincense (*sntr*) and myrrh (*'ntjw*, a word later used to describe aromatics in general), the latter commodity being of particular importance because of its employment in the process of embalming. Expeditions to Punt may have begun as early as the reign of Sahure (Fifth Dynasty, circa 2475), in the twelfth year of whose reign no less than eighty thousand units—the exact unit size is uncertain—of myrrh from Punt were received, according to the Palermo Stone. We find in a slightly later period that the grave inscription of a servant named Khnumhotep proudly declares that he had accompanied his lord Huy, a ship's captain, on eleven(?) journeys to Punt.

Punt seems to have been reached by closely following the western shores of the Red Sea, and thence bringing the acquired goods overland

The Location of Punt

The Dayr al-Bahri relief of Hatshepsut shows a region characterized by tropical flora, with what appear to be huts supported above the ground on wooden columns. It also depicts a giraffe and rhinoceros, as well as baboons. The fauna, in particular, have been taken by many Egyptologists as a sure sign that Punt lay somewhere in Africa. Indeed, the myrrh bush (*Commiphora myrrha*) inhabits Somalia as well as Yemen, while several other species of the same genus can be found in the Horn of Africa (for example, *Commiphora abyssinica*). The trouble with locating Punt in this region, however, is that while it is clear from the Egyptian sources that Punt lay somewhere to the east, scholars doubt whether Egyptian vessels were capable of negotiating the Bab al-Mandab and Gulf of Aden before the Late Period. Some Egyptologists,

therefore, have proposed a location in eastern Sudan or northeastern Ethiopia, thereby obviating the need to posit a voyage around the Horn of Africa.

On the other hand, several scholars believe that Punt, in a vaguer manner, may have denoted both sides of the Bab al-Mandab, also incorporating the frankincense-bearing regions of southern Arabia. (In this regard it should be noted that baboons are found on the Arabian side of the Red Sea, in Yemen, as well as in Africa.) While the best frankincense (*Boswellia sacra*) is found only in Dhofar and in the eastern Hadhramaut, this point does not exclude an African provenance for the frankincense of Punt when it is recalled that other varieties are found in Somalia, and yet another inhabits parts of Sudan.

through the Wadis Gasus and Hammamat before sending them down the Nile to their final destinations. A high official of Sankhkare Mentuhotep II (Eleventh Dynasty, circa 1950) named Henu left an inscription on a rock face in the Wadi Hammamat in which he declared that he had been sent out to build a ship intended to bring frankincense back from Punt. A stela found by Sir Richard Burton in the Wadi Gasus celebrates the successful return of one Khentkhetwer from a journey to Punt undertaken in the twenty-eighth year of the reign of Amenemhet II (Twelfth Dynasty). Without doubt the most famous testimony of the Egyptian Punt expeditions, however, is preserved on the temple reliefs of Dayr al-Bahri, where five ships sent to Punt by Queen Hatshepsut (circa 1478/72–1458) are depicted in great detail.

The number of these expeditions could be increased by going through all of the extant references, but those described above suffice to make the point that the journey to Punt was a royal prerogative. In addition to frankincense and myrrh, a number of other commodities were acquired in Punt, including gold, electrum, slaves, ebony, ivory, baboons, monkeys, leopard or panther skins, eye paint, and various gums and resins. That frankincense and myrrh were the most important products obtainable in Punt is perhaps indicated by several documented attempts to introduce frankincense- and myrrh-bearing

trees (*Boswellia* or *Commiphora*) into Egypt. Hatshepsut's reliefs show no fewer than thirty-one 'ntjw trees that had been brought back from Punt. Ramesses II (circa 1279–1213), moreover, boasted in his temple reliefs at Abydos of having planted many gardens with trees and plants from Punt, while Ramesses III (circa 1187–1156) says specifically that he planted frankincense trees at Thebes and both frankincense and myrrh trees at Memphis (Mit Rahina).

THE GOLD OF OPHIR

Like their distant neighbors on the thrones of Lagash, Akkad, and Ur, the kings of Israel also mounted seaborne expeditions in search of extractable wealth, largely gold. That Solomon (about 973–933), through his various building projects, which included the reconstruction of the Temple in Jerusalem, ran up a vast debt is well-illustrated by his ceding twenty Galilean cities to Hiram of Tyre (1 Kings 9:10–14). This being the case, it should come as no surprise to find that Solomon and Hiram together attempted to reach Ophir, a land that has been called the California of the biblical world because of its gold resources. In 1 Kings 9:26–28, we are told,

And king Solomon made a navy of ships in Ezion-geber [modern Tell al-Khalayfa at the head of the

Gulf of 'Aqaba], which is beside Elath on the shore of the Red Sea, in the land of Edom. And Hiram sent in the navy his servants, shipmen that had knowledge of the sea, with the servants of Solomon. And they came to Ophir, and fetched from there gold, four hundred and twenty talents, and brought it to king Solomon.

Elsewhere we are told that Hiram's own navy returned not only with gold but with precious stones and many almug trees. Later in the first book of Kings we learn that Jehoshaphat of Israel (867–846) intended to send an expedition to Ophir, but his “ships were broken at Ezion-geber.” When Uzziah (Azariah) of Judah (780–740) conquered and fortified Elath he, too, may have had the gold of Ophir in mind.

It has been suggested that the apparently small size of these expeditions must preclude interpreting them as belligerent raids bent on plunder alone. Rather, it is thought that they must have been peaceful trading ventures, bringing goods such as wine, olive oil, honey, and perhaps slaves to bargain for gold.

SEAGOING TRADE IN THE ANCIENT NEAR EAST

The ancient Israelites, Phoenicians, Egyptians, Sumerians, Akkadians, and Babylonians all made some attempt to reach the sources of pre-

cious commodities that were not available in their immediate spheres of influence. With the possible exception of some of the Old Akkadian and Egyptian expeditions, which may have been conceived as tribute-taking rather than trading expeditions, the ancient powers in the Near East were unable to extract by brute force the goods they so desired and more often than not engaged in lawful trade with the inhabitants of the distant regions discussed here.

We have not considered the technical requirements of such journeys. Much has been written about the capabilities and limitations of seacraft in the third, second, and first millennium. Lengthy journeys were successfully undertaken in the Red Sea, Indian Ocean, and Arabian Gulf long before the end of that period. As the author of *Periplus of the Erythraean Sea* asserts, the pilot Hippalus “first discovered” how to sail across the Indian Ocean from southern Arabia to western India by use of the monsoon winds sometime in the first century CE. (See “The Phoenicians” in Part 5, Vol. II.) The steadily growing number of Harappan artifacts found on the southeast coast of Oman—particularly at its westernmost points, Ras al-Hadd and Ras al-Junayz in the United Arab Emirates, Bahrain, and southern Mesopotamia, reveal the Harappans' capacity to cross the Arabian Sea and sail up the Arabian Gulf by the last three centuries of the third millennium. This does not, of course, prove that Queen Hatshepsut's ships were capable of sail-

The Location of Ophir

In the book of Genesis (10:29), Ophir is listed among the “sons” of Joktan, appearing between Sheba and Havilah. While this, at first glance, suggests that Ophir was located somewhere in or near Arabia, suggested locations have ranged far and wide. The orthography of the name varies in different sources, appearing in Greek as *Ουφειρ* (Oupheir) (Genesis 10:29; 2 Chronicles 8:18), *Σωφ[α]ιρά* (Sōph[a]ira) or *Σωφίρ* (Sōphir) (Job 22:24, 28:16), and *Σουφ[ε]ίρ* (Souph[e]ir) (1 Kings 10:11). A late fragment of Alexander Polyhistor excerpted by Eusebius speaks of an island in the Red Sea, rich in gold, called *Ουφρη* (Ouphrē). Beginning in the eighteenth century, some scholars favored identifying Ophir with Sofala on the east coast of Africa. Later a link between Ophir and Dhofar, on the south-

ern coast of Arabia, was proposed. Since Eusebius Pamphili (263–339 CE) and later Hieronymus (Saint Jerome, 348–420), identify *Σωφειρα* (Sōpheira) as a mountain in India, this too has been proposed as a location for ancient Ophir. In one of the most comprehensive studies of the question, the Arabist Bernhard Moritz proposed in 1923 that in light of the limits of early navigation and the large number of gold mines in southwestern Arabia, Ophir should be located in the province of 'Asir, near the Red Sea, in what is today the southwestern corner of the Kingdom of Saudi Arabia. Although the question of Ophir's location remains open, this seems to be the most acceptable suggestion to date.

ing around the Horn of Africa any more than it proves that direct, seagoing contacts, rather than indirect contacts, occurred between Mesopotamia and the Indus Valley. But it can no longer seriously be disputed that the maritime technology for such voyages already existed by the third and second millennia. Mesopotamian cuneiform texts, moreover, contain a wealth of information on the different sizes, capacities, and cargoes of early Mesopotamian boats. The western shores of the shallow Arabian Gulf, where dangerous reefs and shoals are not infrequent, surely claimed their share of early merchant vessels. Although none has been excavated, a number of wrecks (including at least one containing a hoard of what are almost certainly third- or second-millennium copper ingots) have been sited. Undoubtedly, the excavation of one of these vessels would revolutionize our understanding of ancient ships and seamanship in the region in the same way that comparable excavations have informed scholarship in the eastern Mediterranean.

Since 1960, when the late-thirteenth-century BCE Cape Gelidonya ship was excavated off the southern coast of Turkey, an entirely new perspective on Late Bronze Age trade has emerged thanks to the increasingly sophisticated methods of underwater archaeology (illustrated in "Sea and River Craft" in this volume). For the first time the cargoes of ocean-going, eastern Mediterranean trade vessels, previously known only from written records and Egyptian reliefs, are being systematically recovered and studied. The late-fourteenth-century BCE ship discovered at Uluburun to the west of Cape Gelidonya has yielded an impressive inventory consisting of silver, tin, copper, and cobalt-blue glass ingots, ivory, ebony logs, aromatics, and edibles (oils, nuts, spices, fruits) for the crew. The crew's stores included pistachio nuts, olives, pomegranates, figs, grapes, barley, wheat, coriander, black cumin, pine nuts, almonds, and various other unidentifiable pulses and seeds. Thus, not only is the cargo important as a textbook assemblage of the goods which written sources tell us were being traded widely during the Late Bronze Age but just as important is the palaeobotanical evidence which sheds new light on the diet of a ship's crew in this period. Far from being a barrier to contact, the sea was the highway, the

facilitator of exchange and communication throughout the eastern Mediterranean.

BIBLIOGRAPHY

The secondary literature on Dilmun, Magan, and Melukkha is now vast, but still one of the most useful studies of the pertinent cuneiform sources is W. F. LEEMANS, *Foreign Trade in the Old Babylonian Period* (1960). A more up-to-date compendium of the cuneiform material can be found in WOLFGANG HEIMPEL, "Das Untere Meer," *Zeitschrift für Assyriologie* 77 (1987); see also "Magan" and "Meluhha" in *Reallexikon der Assyriologie* 7–8 (1988–1993). For a more recent synthesis of both the written and archaeological sources, see DANIEL T. POTTS, *The Arabian Gulf in Antiquity*, 2 vols. (1990). On the etymology of Magan, Makkan, and Makā, see WILHELM EILERS, "Das Volk der Makā vor und nach den Achämeniden," in *Archäologische Mitteilungen aus Iran Ergänzungsband* 10 (1983), and on the etymology of Melukkha see A. PARPOLA and S. PARPOLA, "On the Relationship of the Sumerian Toponym Meluhha and Sanskrit *Mleccha*," *Studia Orientalia* 46 (1975).

The literature on the Harappan civilization has become voluminous in recent years. ROBERT ERIC MORTIMER WHEELER, *The Indus Civilization* (1953, 3rd ed. 1968) remains a valuable synthesis, along with WALTER ASHLIN FAIRSERVIS, *The Roots of Ancient India* (1971). A more recent discussion of hypotheses concerning the origins of the Harappan civilization can be found in GREGORY L. POSSEHL, "Revolution in the Urban Revolution: The Emergence of Indus Urbanization," *Annual Reviews in Anthropology* 19 (1990). *Ancient Cities of the Indus* (1979) and *Harappan Civilization* (1982), both edited by GREGORY L. POSSEHL, are valuable collections of studies on Harappan archaeology. Since 1971 the Association of South Asian Archaeologists in Western Europe has met biannually. The proceedings of their meetings, entitled *South Asian Archaeology*, have been published irregularly over the years, usually in the host country where the meeting was held, and are an important source of information on excavations conducted during the past two decades. See also the symposium volume, *Ancient Near East and India: Intercultural Religious Parallels* (1993).

For the most extensive study of Punt to date, see ROLF HERZOG, *Punt* (1968). Also of great utility are K. A. KITCHEN, "Punt," *Lexikon der Ägyptologie* 4 (1982), and W. W. MÜLLER, "Alt-Südarabien als Weih-

rauchland," *Theologische Quartalschrift* 149 (1969). For the basic data on frankincense and myrrh, see the encyclopaedic study by W. W. MÜLLER, "Weihrauch," in *Pauly-Wissowa Real-encyclopädie*, supplemental vol. 15 (1978). On the differences between Arabian and African aromatics, see F. NIGEL HEPPER, "Arabian

and African Frankincense Trees," *Journal of Egyptian Archaeology* 55 (1969).

The most important discussion of Ophir is that of BERNHARD MORITZ, *Arabien: Studien zur physikalischen und historischen Geographie des Landes*, part 2, *Das Land Ophir* (1923).

SEE ALSO **Sea and River Craft in the Ancient Near East** (Part 6, Vol. III) and **Island Cultures: Crete, Thera, Cyprus, Rhodes, and Sardinia** (Part 6, Vol. III).

Messengers and Ambassadors in Ancient Western Asia

GARY H. OLLER

WHEN ONE THINKS of communications and messengers in the ancient Near East, what comes to mind is the description by the Greek historian Herodotus of a series of fleet, tireless couriers who, undaunted "either by snow, or rain, or heat, or by darkness of night," traversed the vast expanses of the Persian Empire. However, this "pony express" system was only the most recent in a series of communication networks going back from the Assyrians, who preceded the Persians as conquerors of the Near East, to the Sumerians and their city-states, which dotted the southern plain of Mesopotamia in the third millennium BCE.

Obviously there were countless reasons for communications at all levels of society. At the international diplomatic level, on which this survey will focus, such occasions as the payment of tribute, gift exchanges, treaty negotiations, royal accessions, marriage alliances, illnesses, funerals, religious celebrations, and festivals were all instances when rulers might send messengers to each other. Within political entities, effective, swift messenger services were necessary for governance, especially when those entities grew to the size of the Assyrian or Persian empires.

Much information on the uses of messengers and ambassadors in these contexts is available

from major archives like those of the Old Babylonian site of Mari (eighteenth century BCE, modern Tell Hariri) and the ephemeral New Kingdom Egyptian capital at al-Amarna (ancient Akhetaten, fourteenth century). Another source is surviving documents from the Neo-Assyrian Empire (eighth–seventh centuries). The following overview is largely a composite based on this material.

TERMINOLOGY AND SELECTION

While in the languages of the diverse groups and cultures of the ancient Near East there are numerous words designating individuals involved in aspects of communications, it is the Akkadian term *mār šipri* that signifies the scope of the role that a messenger played in this world. "Messenger," "envoy," "ambassador," "diplomat," "agent," "deputy," and even "merchant" are all valid translations of this term in specific instances and contexts; this indicates that *mār šipri* could refer to a simple, lowly courier conveying a message as well as to an envoy or ambassador representing his lord at the court of a foreign potentate. The choice of translation de-

depends on the context, but at the basic level the term refers to an individual who conveys information in a variety of ways, sometimes not only carrying specific messages back and forth but also acting as a spokesperson for the sender as well as information gatherer. Thus the distinction between messenger and diplomat is sometimes blurred. Since along with their messages they often carried goods as “gifts,” which in international diplomatic practice was a major means by which foreign trade of the king was carried on, they also can be seen as merchants. Because of these functions, the *mār šipri* was the major instrument of long-distance communication in all aspects of life.

Within the range of the activities associated with the *mār šipri*, three distinct levels of individuals bearing the title are discernible. The first included those sent on simple errands; for example a child or serving maid dispatched to fetch an object or pass a command or message on to another individual. These people will not be of concern here. The second level consisted of those whose task was simply to present a verbatim message with little or no negotiation. The third level encompassed those individuals whose mission or tasks required negotiation of some sort. These people, often trusted aides or relatives of the king, can truly be regarded as ambassadors or diplomats required to deal with sensitive or important issues.

Circumstances dictated the selection of a person for a mission, and no exact criteria for choosing a messenger in all cases appear to have existed. In social status they ran the gamut from rulers (a vassal-king interceding on behalf of another before an overlord) to commoners, free-born and slave; there are also numerous examples of women (*mārat šipri*), usually in the service of other women, fulfilling all of the functions of the messenger. Often-cited characteristics of good messengers included loyalty, trustworthiness, and speed. Interestingly, a good memory and literacy do not seem to have been criteria. Perhaps this was because the actual writers and readers of the messages at the departure and arrival points were scribes. Scribes and messengers were not necessarily equivalent. Indeed, as will be discussed further below, they complemented each other, since the written text and oral presentation taken together

helped insure that the exact meaning of the message would be transmitted.

When missions were of a personal nature, rulers sent people from their inner circle who often were royal family members. Sometimes individuals were picked because they or their families had a special relationship or connection with the recipient's country or court. There are many instances in the al-Amarna correspondence of rulers requesting specific individuals whom they knew and trusted to be sent to them. In diplomatic contexts a messenger who had built a rapport with the recipient could be a valuable asset to the sender.

In the Assyrian imperial bureaucracy, the messengers who carried the administrative correspondence were sometimes designated as soldiers of various sorts, suggesting that important mail was carried by the military to insure its safe delivery. Those who carried the Assyrian royal correspondence were members of an elite military corps (*ša qurbūti*) that has been described as a kind of imperial troop corresponding to the Roman praetorian guard. An unusual aspect of this corps was that its members were almost all eunuchs who, because of their condition, were believed to be the most trustworthy and loyal of individuals and so the most reliable and honest conveyers of royal messages.

Since cuneiform was the main writing system used in the ancient Near East, the messages carried were normally on clay tablets, in some periods (Assyrian) of standardized shape. They were enclosed in a clay envelope that protected the contents from prying eyes and were sealed with the seal of the sender, which authenticated the document. In certain regions and periods (second-millennium Hittites in Anatolia and northern Syria and first-millennium Assyria), there is also evidence that hinged wooden tablets with waxed surfaces on which the writing was incised were employed for letters and other types of messages. Whichever the forms of the messages, they might be carried in a bag slung either over the shoulder or around the neck.

TRAVEL AND TRANSPORTATION

Messengers and diplomats traveled by a variety of means: on foot (running); by water (river

boats); and on wagons or chariots pulled by asses, donkeys, or horses. The roads they traveled were often difficult to negotiate. Although the Persian express messengers covered the fifteen hundred miles (twenty-four hundred kilometers) of the Royal Road in nine days, evidence from a variety of sources suggests that the normal distance traveled in a day was between seventeen and twenty-three miles (between twenty-seven and thirty-seven kilometers). Highwaymen and brigands were an ever-present danger and foul weather, both dry and wet, was a constant. To deal with all of these problems, the messenger-diplomat often traveled in groups or caravans. These could be sizable, but even so they did not always afford real protection. There are many examples of messenger-diplomats being killed and even whole caravans attacked. Indeed the goods carried by them in the caravan could be an enticement for robbers. In one example from Mari, a caravan consisting of two messengers with an entourage of twenty-two was attacked; the messengers were killed along with twelve others. This tells not only the size of such a group (twenty-four persons) but also that, at least in this instance, it was not large enough to ward off attack.

"Passports" were often issued to the messengers by their rulers. These helped to expedite their movements and to avoid bureaucratic delays. They were usually mission specific, naming the individual, his charge, destination, and so on (see box). Since it was normal for local officials, acting on behalf of their lords, to regulate the movement of messengers through their territories and inquire into their charge or business, those traveling without such permits could expect to be stopped and perhaps endure interminable bureaucratic delays. Although there were attempts through international treaties to stop the mistreatment of messengers that occurred even to those with passports, messengers could not rely on the right of diplomatic immunity for protection. For example, in the al-Amarna correspondence, rulers often complained to their fellow rulers about their representatives being mistreated, robbed, and even killed, not by robbers but by local officials or vassal-kings. In hostile territory diplomatic immunity was nonexistent, and messengers could

Passports

A text from Mari and another from al-Amarna are good examples of passports issued to messengers. The former reads: "Yaspuqi-El, messenger of Sura-Khammu, from Akhuna; 100 *pihrum*-troops, 1 *šagatum*-officer, his escort, from Ashlakka; to Mari" (Translation in *Archives Royales de Mari* 23 (1984)). The latter states: "To the kings of Canaan, servants of my brother: Thus (says) the king: 'I herewith send Akiya, my brother. No one is to hold him up. Provide him with safe entry into Egypt and hand him over to the fortress commander of Egypt. Let him go immediately, and as far as his presents are concerned, he is to owe nothing.'" (Translation by William L. Moran, p. 100)

expect to be seized and possibly killed. Also it was not unusual for stronger powers to interfere with messenger movement through their territories.

As a sign of diplomatic courtesy, the recipient ruler provided the returning messenger with an escort. This individual (*ālik idi* in Akkadian; literally, "traveler at the side [of someone]"), who accompanied the messenger back to his point of origin, provided him safe conduct and helped him to deal with bureaucratic problems that might arise during the return trip. He was also a messenger in his own right who would deliver a message at the final destination and then, in turn, be escorted back to his point of origin. This, in effect, set up a continuing cycle of communication between the parties. To show his displeasure or as an insult, a ruler might allow the messenger-diplomat to return without an escort. In a Mari text, Hammurabi of Babylon slights a delegation of Elamites in just this manner.

From as early as the third millennium, Mesopotamian rulers attempted to facilitate communication and promote safety for travelers within their realms by maintaining a complex of roads with way stations or inns along them for rest, refreshment, and security. In one of his hymns, Shulgi of the Third Dynasty of Ur boasts:

I *enlarged* the footpaths, straightened the highways of the land, I made secure travel, built there "big houses," planted gardens alongside of them,

established resting-places, settled there friendly folk, (so that) who comes from below, who comes from above, might refresh themselves in its cool (shade), the wayfarer who travels the highway at night, might find refuge there like a well-built city. (Translation by Samuel Noah Kramer in *Ancient Near Eastern Texts Relating to the Old Testament*, edited by James B. Pritchard [3rd ed., with supplement, 1969], p. 585)

During the Assyrian period, the way stations (*bit marditi*) were about eighteen miles (thirty kilometers) apart (approximately one day's march). Here the military and royal messengers could acquire fresh teams of mules along with a chariot and driver, which were always available for continuing to the next relay point. This system was the predecessor to that ascribed by Herodotus to the Persians.

ARRIVAL, PRESENTATION, AND NEGOTIATION

Upon arriving at their destination, the foreign messengers presented themselves at the gate of the palace and announced their presence. Not all messengers were received. At the international level, it was normal for allies not to admit messengers from those not allied with them. Also vassals were admonished by their overlords not to accept messengers from the latter's enemies, as this would be a treasonous act. Envoys who were not welcome would be addressed at the gate or sent away; in time of war, if they were allowed to deliver their messages, this would be done outside the gate of the city or encampment. The most famous example of this is found in 2 Kings, chapter 18, where the representative of the Assyrian king, Sennacherib, whose army is encamped outside of Jerusalem, addresses the officials of Hezekiah, who are standing on the walls of the city. In peacetime such treatment was interpreted as a personal insult and a hostile action.

The messenger-diplomat would have to go through the proper bureaucratic channels to receive an audience with the king. The granting of such a meeting in certain periods (Neo-Assyrian) was a major privilege. At the beginning of such an interview, certain matters of protocol would be observed, including offers of hospitality and prostration as a mark of submission.

The Mari texts indicate that there was a hierarchy among messengers. This is clear from Zimri-Lim's accounting of steps he took to avoid making an alliance with Eshnunna, a mortal enemy of his correspondent, Yarim-Lim, king of Yamkhad.

Eshnunna keeps writing me about making peace. The first time (its king) sent me an envoy, I turned him back at the frontier. He tried it once more, but I turned back his envoy at the frontier. Later, when a dignitary (lit. "donkey rider") came here, I turned him back at the frontier, thinking, "How could there be peace with Eshnunna without Yarim-Lim's approval?" (After D. Charpin, *Marchands, Diplomates, et Empereurs*, 1991, p. 161)

In biblical lore, a ceremonial ride on a donkey, far from connoting poverty or humility, symbolized kingship.

If the messenger was merely delivering a message—as opposed to serving on a more complex diplomatic mission—and was personally unknown to the recipient, it was necessary to establish his credentials and the validity of the information he brought. Countersigns and knowledge of inside information might be one way of proving one's reliability, as in the following example from Old Babylonian Shikshabbum (Tell Shemshara). Shamshi-Adad I of Assyria had just received important confidential information necessary for a planned military effort from a messenger unknown to him, and he was uncertain as to its reliability.

However I (Shamshi-Adad) have questioned him, and he gave me the countersigns of those under Warad-sharrim (his ambassador at Shikshabbum); the necklace ring I gave the messenger Mutushu he mentioned as a countersign. Also the assistant of Mutushu, Etellini, fell ill in Arrapha (Arrapkha), and the illness of that man he mentioned to me. So he gave all the countersigns. So for that reason I trusted their words. (Translation by J. Laessøe and T. Jacobsen, p. 132)

If necessary a translator might be on the scene during the presentation of the message. He might have traveled with the envoy or might be a local individual in the employ of the recipient.

The message presented was not one that had been memorized by rote from the written tablet. As Samuel A. Meier has suggested in his study of messengers and as has been noted above, the

oral and written versions were two distinct things. The latter would be read by scribes and could be used as a means of checking on the credibility of the messenger and his report. In delivering the oral version the messenger, depending on the context, had some freedom regarding the way in which he presented his information; also he could be relied on to expand upon the message and respond to unanticipated issues in ways that would please his sender. It was normal for the messengers to be questioned by their hosts, and the necessity to respond placed them within the realm of the diplomat.

A good example of a quick-thinking messenger-diplomat is found in an al-Amarna letter from a Kassite king, Burna-Buriash II, to the Egyptian pharaoh Akhenaten (Amenhotep IV). In it Burna-Buriash explains that the pharaoh's representative has not yet "eaten food and drunk spirits in my company" because he (Burna-Buriash) had been ill. Akhenaten, he says, can check this with his own messenger, who will confirm that the king was so sick that he nearly died. Burna-Buriash goes on to state that while he was sick, he received no special message of good wishes from Akhenaten and complains to the pharaoh's messenger about it. The messenger deftly replies that

it (Egypt) is not a place close by so your brother can hear about you and send you greetings. The country is far away. Who is going to tell your brother so he can immediately send you greetings? Would your brother hear that you are ill and still not send you his messenger? (Translation by William L. Moran, p. 13)

Burna-Buriash then inquires whether for his brother, "Great King," there really is a faraway country and a nearby one; then the messenger, faced with either insulting his geographically ignorant host or denigrating his own lord's power, proves his mettle as a diplomat by answering the question with another of his own: "Ask your own messenger whether the country is far away and as a result your brother did not hear about you and did not send anyone to greet you." When Burna-Buriash's messenger confirms that the road to Egypt is long, the king assures Akhenaten that he is no longer angry with him.

Ambassadors obviously were expected to do more than deliver messages, and they appear to have had some latitude in negotiating to achieve

the goal of their mission. An able envoy would certainly have been able to point out, diplomatically of course, when his host was being less than truthful or honest in his dealings. For example, in a report to his lord, Zimri-Lim, Darish-libur—the Mari representative at the court of the powerful king of Yamkhad, Yarim-Lim—describes how he accomplished his task, which was the expulsion from Yamkhadian territory of fugitive tribal leaders who had recently lost a war against Mari. During the audience, Yarim-Lim declares that

these kings are not in my land. Had they been here and I withheld them from Zimri-Lim, may Adad, lord of Khalab, investigate Yarim-Lim! Moreover, from now on—whether it is one, two, even ten years—should they come into my land, I promise to bind them and turn them back to Zimri-Lim. These men are not within my dominion. (Translation by J. M. Sasson, p. 254)

Darish-libur knew that this was not exactly true and that the men were in Emar, a territory under Yarim-Lim's control (modern Meskene). Therefore he replied, "the whole dominion and Emar as well, are they not yours—your own land? It is my lord (i.e., you) who is holding these men here." This forced Yarim-Lim to admit the truth, and he gave orders to the elders of Emar that the men must be expelled and not allowed to return.

HOUSING AND GIFTS

During his stay the messenger and his entourage were housed in the palace by the recipient ruler or in the house of a local or native individual (*napṭaru*) who was responsible for the acts of the foreigner in relation to the king and so can be designated by the Greek term *proxenos*. The visiting messengers and diplomats, and often their entire entourages, were met by honor guards and maintained at state expense. They received normal rations of food and drink; records at Mari attest to provision of various foodstuffs, including wine, honey, and oil. In addition, dining with the king was a particular honor sometimes granted. Also special gifts might be presented, which could include additional foodstuffs, fancy clothes, and even shoes for the return journey. Not only did the messen-

gers and diplomats receive presents, but often their servants did as well. Ambassadors at the Neo-Assyrian court to pay their tribute received gold or silver rings, and their servants were given smaller versions of the same.

Visiting allied military forces might also be awarded gifts, and there were conventions regarding the kinds of gifts awarded to individuals of specific ranks (e.g., general, captain, lieutenant) and also governing the number of persons holding those ranks. An interesting Mari letter sheds light on these conventions. In it Ibal-pi-El, an important Mari general and ambassador to Hammurabi's court at Babylon, writes to his lord, Zimri-Lim, that a military contingent from Mari consisting of Khanean tribesmen had arrived in Babylon and were to dine with Hammurabi the next day. Gifts would be presented there, but he had discovered that the number of captains (twelve) and lieutenants (twenty-four) in the force was greater than convention allowed. The appropriate numbers for a one-thousand-man contingent were one general, ten captains, and twenty lieutenants. Therefore he was afraid that if the actual numbers became known, Hammurabi would be angry for having to dispense a larger number of gifts than was required. However, he was reluctant to remove two of the captains from their position because of the negative reaction it would cause. So

fearing this I placed Sulum over the Khana's Yabasa-clan and Bikhirim over the Asharu-clan, and assigned the 10 captains. And among the 24 lieutenants that Bakhdi-Addu assigned, I agreed to 20 of them. With regards to Sulum and Bikhirim, I said, "Bakhdi-Lim is top, a General; and these two men are Army Controllers. Having arranged this, Sulum and his colleague got a gold ring and a gold disk. The value of their ring was 5 shekels, the same amount also was for their disk—but the real weight of the ring and disk was 8 shekels. They also received 2 garbs and 2 multicolor jackets.

The 10 captains each received a bracelet, a ring and ten multicolor jackets; 20 shekels was the value of the bracelet and ring—but 18 shekels is their (real) weight. Present of the "captains."

The 20 lieutenants received 10 shekels for one ring of silver and 1 shekel for a signet, a garb, and a multicolor jacket. The value of their ring is 10 shekels; 1 shekel the value of the signet—real weight: 8 shekels for the ring; $\frac{2}{3}$ shekel for the

signet. (Translation by J. M. Sasson from P. Villard, p. 140)

Additional small gifts of rings and clothing were awarded to the personnel and fifty men who had performed a parade for Hammurabi and his guests.

The text not only reveals Ibal-pi-El's clever stratagem of removing two of the captains and giving them another rank (army controllers), thus allowing them still to receive gifts; it also shows that the gifts and their exact values were reported to Zimri-Lim, presumably for reference regarding future reciprocal presentations.

These gifts to the members of entourages, delegations, or military forces were an indication of the ruler's goodwill toward the sender. The withholding of gifts could be an indication of displeasure and could be viewed as insulting behavior. In such contexts as the Neo-Assyrian tribute-payment ceremonies, the gifts were a means of rewarding loyalty or bribing the potentially loyal. They also served as an incentive not only to be punctual with the annual tribute but to make the trip again the following year.

DEPARTURE FOR HOME

As a resource person, fact finder, and "king's eye," the messenger could not complete his mission without returning home. However, messenger-diplomats usually needed the permission of their host to depart, and in many instances, they were not allowed to leave for literally years. In the al-Amarna correspondence, for example, we find that Babylonian messengers were detained in Egypt for six years, Egyptian messengers were delayed in Cyprus for three, and messengers from Tunip were held in Egypt for twenty! Aside from circumstances beyond one's control—weather, disease, lack of transport—there were numerous reasons for withholding permission. Messengers were used by their hosts as hostages to compel accountability from the messengers' home country or sender. Thus, here too, as in the movement of messengers, the concept of diplomatic immunity did not really exist.

THE TRAVAILS OF A MESSENGER: WEN AMUN

This contribution concludes with a discussion of what is perhaps the best extant example of the difficulties faced by a messenger or diplomat of the ancient Near East. The late Twenty-first Dynasty Egyptian papyrus *The Report of Wen Amun* describes the mission of Wen Amun (Wenamun), an Egyptian envoy, to purchase Lebanese timber for the sacred barque of the god Amun-Re in the twenty-third year of Ramesses (Ramses) XI. Scholars have debated whether or not the report is fictional, but its eleventh-century historical context seems plausible. At that time the Egyptian king was no longer in control; real power was in the hands of two men: Smendes, in the north, and Herihor, Wen Amun's master, at Thebes (Diospolis, Diospolis Magna) in the south. The Egyptian empire along the coast of the eastern Mediterranean had already disappeared, and it was this circumstance that made Wen Amun's task difficult.

Setting out from somewhere in Upper Egypt, Wen Amun first stops in Smendes's territory in the Delta, Tanis (biblical Zoan), where Smendes and his wife agree to assist his mission by arranging sea passage for him. He then sails up the coast to the Tjekker (Philistine) port of Dor (Tantura), where he is robbed by a man on the ship on which he is traveling of the capital necessary to complete his task. The local ruler, when asked for assistance, is sympathetic but points out that

if it had been a thief belonging to my land who had gone down to your ship and stolen your money, I would replace it for you from my storehouse, until your thief, whatever his name, had been found. But the thief who robbed you, he is yours, he belongs to your ship. Spend a few days here with me; I will search for him. (Translation by Miriam Lichtheim, vol. 2, p. 225)

The search, however, is unsuccessful, and after nine days Wen Amun leaves. On the way to Byblos (biblical Gebal, modern Jubayl), he encounters a ship from Dor, from which he seizes silver equivalent to his loss, stating that he will retain it until his own capital is found.

At Byblos the local prince refuses to see him and repeatedly tells him to leave. Just as he is

about to sail back to Egypt, one of the prince's own men has a vision that Wen Amun is a valid envoy from Amun. The prince has a change of heart and invites him for an audience.

At the audience Wen Amun immediately incurs the prince's wrath because he has neither the proper credentials and letter describing his mission (these having been left with Smendes, presumably following diplomatic practice there) nor a gift (payment) sufficient to induce the ruler to provide timber. (The prince's ancestors once received six ships laden with goods from Egypt for the same purpose.) Wen Amun asks that a message be sent to Smendes requesting the necessary capital, for which Smendes will be reimbursed, presumably by Herihor. Smendes complies, sending "4 jars and 1 *kakmen*-vessel of gold; 5 jars of silver; 10 garments of royal linen; 10 *hrd*-garments of fine linen; 500 smooth linen mats; 500 ox-hides; 500 ropes; 20 sacks of lentils; and 30 baskets of fish."

Pleased by this gift, the prince of Byblos agrees to provide the timber. When it is ready, he calls in Wen Amun and tells him that he may load his ships and leave. He emphasizes that he has not done to Wen Amun what was done to earlier Egyptian envoys: "After they had spent seventeen years in this land, they died on the spot," he states.

As Wen Amun is about to depart, eleven Tjekker ships from Dor arrive and demand that the prince arrest him for the theft of their money and stop his ships from sailing. The prince considers this overnight, meanwhile sending Wen Amun entertainment in the form of food, drink, and an Egyptian songstress. The next morning he tells the Tjekker that he cannot arrest Wen Amun, who has been accepted as Amun's envoy. However, the prince points out that once he sails, the Tjekker can pursue and arrest him.

Wen Amun sails for home, but a storm forces a landing in Alashiya (Cyprus). Here the indigenous people are about to kill him and his crew when he makes a plea to Hatiba, the local princess. He has to ask for an interpreter who understands Egyptian, and one is found to translate for the princess. He introduces himself as an envoy of Amun and emphasizes that if his Byblian crew is killed, the ruler of Byblos will certainly "find 10 crews of yours and kill them also."

As the princess reprimands her people and invites Wen Amun to stay for the night, the text breaks off. The rest of the report is lost. By this time the harried envoy may have been on his mission for about two years, and his travels may have lasted a great deal longer.

This document then shows the trials and tribulations that might be faced by messenger-diplomats. It underscores their frequent need to improvise, using their native wit not only to accomplish their missions but also to survive.

CONCLUSION

Messenger-diplomats served as the major mechanism of long-distance communication in the ancient Near East. While their lives could be rewarding in terms of gifts received and honors bestowed, the dangers of travel and the lack of a strong concept of diplomatic immunity—which made them susceptible to mistreatment and even death—highlight the hard realities of the job. The Egyptian Middle Kingdom instruction text, the *Satire on the Trades*, overstates the negative for satiric effect but may capture the essential nature of a messenger's life with the following: "The courier goes to the desert, leaving his goods to his children; fearful of lions and Asiatics, he knows himself only when he's in Egypt. When he reaches home at night, the march has worn him out; be his home of cloth or brick, his return is joyless" (Translation by Miriam Lichtheim, vol. 1, p. 188).

BIBLIOGRAPHY

General

JOHN T. GREENE, *The Role of the Messenger and Message in the Ancient Near East: Oral and Written Communication in the Ancient Near East and in the Hebrew Scriptures* (1989), must be used with extreme caution if at all. For its flaws and difficulties see the review by SAMUEL A. MEIER in *The Journal of the American Oriental Society* 110, no. 4 (1990), with which I entirely concur. SAMUEL A. MEIER, *The Messenger in the Ancient Semitic World* (1988), is the best and most

recent overview on the messenger and his role. MICHEL VALLOGGIA, *Recherches sur les "messagers" (wpwtyw) dans les sources égyptiennes profanes*, Hautes études orientales 6 (1976), is a basic study of Egyptian messengers and their functions.

Terminology and Selection

See SAMUEL A. MEIER, "Women and Communication in the Ancient Near East," *Journal of the American Oriental Society* 111, no. 3 (1991). SIMO PARPOLA, *The Correspondence of Sargon II. Part 1, Letters from Assyria and the West* (1987), contains a discussion of administrative communications in the Assyrian Empire on pp. xiii–xx. See also DORIT SYMINGTON, "Late Bronze Age Writing-Boards and Their Uses: Textual Evidence from Anatolia and Syria," *Anatolian Studies* 41 (1991), and CARLO ZACCAGNINI, "The Merchant at Nuzi," *Iraq* 39, no. 2 (1977). In the last work, a bibliography and discussion of the *mār šipri* as merchant can be found on pp. 171–172.

Travel and Transportation

BARRY BEITZEL, "Travel and Communications, The Old Testament World," in *The Anchor Bible Dictionary*, edited by DAVID NOEL FREEDMAN, vol. 6 (1992), and WILLIAM L. MORAN, *The Amarna Letters* (1992).

Arrival, Presentation, and Negotiation

1. J. GELB, "The Word for Dragoman in the Ancient Near East," *Glossa* 2, no. 1 (1968), is a study of the word for and use of interpreters in the ancient Near East. See also JORGEN LAESSØE and THORKILD JACOBSEN, "Šikšabbum Again," *Journal of Cuneiform Studies* 42, no. 2 (1990), and JACK M. SASSON, "Yarim Lim's War Declaration," in *Miscellanea Babylonica: Mélanges offerts à Maurice Birot*, edited by JEAN-MARIE DURAND and JEAN-ROBERT KUPPER (1985).

Housing and Gifts

DOMINIQUE CHARPIN, "Les représentants de Mari à Babylone (I)," in *Archives épistolaires de Mari I/2*, Archives royales de Mari 26 (1988), includes a bibliography and a discussion of the term *napṭaru* on pp. 140–141. JOHN N. POSTGATE, *Taxation and Conscript in the Assyrian Empire* (1974), discusses emissaries and ambassadors and their treatment at the Assyrian court, especially in relation to tribute payment, on pp. 123–128. See also P. VILLARD, "Parade militaire dans les jardins de Babylone," in *Florilegium Marianum, Recueil d'études en l'honneur de Michel Fleury*, Mémoires de N.A.B.U. 1 (1992).

Wen Amun

While A. EGBERTS, "The Chronology of *The Report of Wenamun*," *Journal of Egyptian Archaeology* 77 (1991), deals with the chronology of Wen Amun's mission, it contains many useful and up-to-date bibliographical citations on the text, especially on pp. 37–38. See also MIRIAM LICHTHEIM, *Ancient Egyptian Literature: A Book of Readings*, vol. 1, *The Old and*

Middle Kingdoms (1973), and vol. 2, *The New Kingdom* (1974); GUY BUNNENS, "La Mission d'Ounamon en Phénicie: Point de vue d'un non-Egyptologue," *Rivista di Studi Fenici* 6 (1978), which deals with the legal and diplomatic aspects of the text; and MARIO LIVERANI, *Prestige and Interest: International Relations in the Near East ca. 1600–1100 B.C.* (1990).

SEE ALSO **The Economy of Ancient Egypt** (Part 6, Vol. III).

Private Commerce and Banking in Achaemenid Babylon

FRANCIS JOANNÈS

BABYLONIA IN THE ACHAEMENID PERIOD was a prosperous region that profited from the efforts at reconstruction undertaken by the Neo-Babylonian kings beginning in the sixth century BCE and from the power of the empire that they had built. The Persian conquest in 539 was rapid, and while it instituted an important political change, it did not bring about a reorganization of the administrative and economic structures of Babylonia, which became one of the principal satrapies of the Achaemenid Empire. It was only beginning with the reigns of Darius I and Xerxes that, little by little, a new administrative organization replaced the old local authorities, and the taxes directed to the central treasury led to ever more pronounced exploitation of the region, entailing an inflation characterized by the increase in prices of the most ordinary products. Under Darius II, one *kur* of dates (about 180 liters or 47 gallons) was worth about twice its price during the reigns of Cyrus and Cambyses.

Under the Persian rulers, Babylonia was hardly ever a theater of war, aside from the upheavals at the beginning of the reigns of Darius I and then of Xerxes I, and the famous expedition of Cyrus the Younger described by Xenophon. Each of these was a relatively brief episode, without lasting economic consequences. At the same

time, the unification of the entire East by the Achaemenids led to the increased circulation of goods and persons from which Babylonia profited, even though it was not itself located on the main axis of trade. This, following the Royal Road, passed farther north, along the present Syrian-Turkish border, and then turned to the southeast; it was this route that Alexander the Great was to follow on his conquest, opening the gates of Iran by the victory at Gaugamela in 331.

This stability allowed the leading citizens of the principal cities of Babylonia (Sippar, Babylon, Borsippa in the north, Nippur in central Babylonia, Uruk, Larsa, and Ur in the south) to prosper by accumulating the revenues brought to them by lands, houses, and slaves; they invested part of these revenues in financial and commercial operations that are known to us from the numerous cuneiform contracts found since the end of the nineteenth century, usually gathered in lots in private archives.

These archives are not distributed evenly over time: most of them go back to the beginning of the Persian period (last third of the sixth century), and they often continue archives begun under the Neo-Babylonian kings. This is the case of the archives of the Egibi family of Baby-

lon and of the Ea-iluta-bani family of Borsippa (just south of modern Hilla), which stop at the end of the reign of Darius I. Certain lots, however, are later, such as that of the Murashu family of Nippur (modern Nuffar), dating from the end of the reign of Artaxerxes I and the beginning of the reign of Darius II, or of certain archives from Ur (modern Tell al-Muqayyar), dated in the reign of Artaxerxes II. It remains difficult to explain why cuneiform documentation of private origin became rarer in this way after Darius I and Xerxes I. Several reasons can be suggested, such as the destruction of public buildings or of certain residential quarters in the big cities, perhaps in the wake of the suppression of independence revolts in the reign of Xerxes; or else it could be a modification in the system of record keeping. It is also likely that the increasingly frequent use of the Aramaic language and script throughout the Near East led to a reduction in the number of contracts written in cuneiform. But the quality of manufacture of tablets found in the Murashu archives in Nippur, dating from the end of the fifth century, shows that the written cuneiform tradition was not extinct. This can be seen elsewhere as well, in the contracts of the Hellenistic period found at Uruk (modern Warka, biblical Erech) that date from the last centuries of the first millennium.

These diverse lots of private archives show that a goodly number of leading Babylonians participated in financial and commercial operations, in this following a centuries-old tradition. This practice of commerce in silver involved, according to the resources of the lenders, more or less extensive circles, from borrowings within the family or between neighbors all the way to transactions that put some businessmen into relations with political power or international commerce. Aside from private financiers, the sanctuaries were involved just as much, but they participated principally in order to procure the products necessary for their upkeep and for the service of the cult, or when necessary to manage their patrimony.

Private commercial and financial operations, by contrast, often remained restricted to where the lenders lived, or even (in the case of a metropolis like Babylon) to their own city quarter. Only two lots of archives testify to a somewhat wider reach: that of the Egibi family, which operated

throughout Babylonia, and sometimes even in Iran; and that of the Murashu family of Nippur, in central Babylonia, which dominated the entire region enclosed between the Tigris and the Royal Canal running on the old second-millennium bed of the Euphrates. As for international commerce, it appears to have been concentrated in the hands of non-Babylonians, as is shown by the West Semitic names of most of the merchants.

These commercial and financial operations were the object of contracts built on a unique model, that of the promissory note (*u'iltu*). In this type of act, first the object of the transaction (precious metal or agricultural produce) is enumerated, then are given the names of the lender and the borrower, as well as the duration of the loan and its characteristics (methods of reimbursement, fixing the interest to be collected, taking as security some property belonging to the debtor). Finally, a number of witnesses are named along with the scribe; the place and the date of drafting the contract are specified. The training of scribes, which proceeded by progressive memorization of a certain number of sample contractual instruments, and the very practical mind-set of Babylonian "commercial law" meant that every situation could be handled with a promissory-note contract, and all that was needed was the adaptation of certain formulas. Thus, contracts are drafted following the same formal schema that are in fact continuations or assignments of credit, undertakings to purchase, commercial associations, payments of taxes, or agricultural dues. When the borrower discharged his debt, the promissory-note tablet was returned to him by the creditor, and in most cases it was broken to mark the annulment of the debt. Sometimes the creditor kept the tablet, but then he furnished to the debtor a certificate of payment. The principal consequence of these practices is that, in the archives available to us, we have an inverted view of the actual financial situation of those involved, as if from a photographic negative, for usually the claims that creditors possessed were destroyed when the debtors were cleared of them. We find many more occasions in which the contractors are debtors than they are creditors. The first of these could include tablets that they had retrieved upon discharging a debt, or else debts that remain out-

standing; the second could involve claims for which they have delivered a certificate of payment but kept the original of the promissory note, or else debts that had not been honored. This paradoxical appearance of the documentation means that we must not conclude from the distribution that the people cited in the archives were in a difficult financial situation on the basis of the fact that what is found are mostly instruments in which they are debtors. On the contrary, it is the number of documents that must be considered as testimony of their intense financial activities.

Contrary to what well-established traditions concerning the Babylonians, such as are found for example in the Bible, lead us to understand, not all loans involved the collection of interest. When this does happen, it has to do with the stated desire to make a profit on capital. It often involves silver lent by women, because they had practically no control over the management of real estate or slaves. Whatever a woman received in her dowry was integrated into the estate of her in-laws and managed by the person in charge of the family, the father or the eldest son. But some women from rich families also received sums of silver in their dowry, or converted their family goods to precious metal. They then turned a profit themselves on this capital by investing it in financial ventures.

Interest was normally equal to one-fifth the principal, or 20 percent per annum. It could be lower, but only exceptionally exceeded this rate. When a rate higher than 20 percent is found, it is nearly always because of a clause penalizing a late payment.

At the same time, certain contracts also provide for the creditor to take as security objects from the debtor's property. This security, which is juridically a real security, guaranteed to the creditor the possibility of reimbursement in case the debtor did not make good on his debt. But we find that some securities provide a financial return to the creditor who has them under control: it can be a person, sometimes a member of the family of the debtor, but more often one of his slaves, who works for the creditor while the loan is active. It could also be a house in which the creditor resides for the duration of the contract. In fact, one could consider these takings of security to be a disguised collection of interest.

This is certain when, in the case of a house taken as security, the contract specifies that "the creditor shall not pay rent for the house, and the debtor shall not pay interest" on the amount of silver or the produce lent. Transactions are thus encountered that are not truly borrowings, but rather disguised rentals of real estate or work contracts. The parties to the contract make use of the formal juridical model of the promissory note, but for a type of operation that is in fact quite different. We here perceive one of the facets of the Babylonian mind-set, which applies a basically simple scheme by adapting it to every possible configuration.

Commercial transactions were the object of contracts adapted from the basic schema of the promissory note, but included a clause specifying the purpose of the transaction: Akkadian *ana ḥarrāni*, literally, "for a commercial expedition." In such ventures, two or more persons (up to four or five) pool resources to invest a certain amount of capital, depending on their respective assets. This capital is entrusted to an entrepreneur, who could be one of the contracting parties. With this capital, in silver or in kind, he is to carry out commercial transactions and make a profit that would be divided pro rata according to the individual investments. He could also commit himself to paying a fixed sum in advance and thus keep for himself the resulting surplus. In these contracts, we find real commercial transactions, such as buying or selling of all sorts of products, followed by resale at a profit, in Babylonia and, less commonly, abroad. But the same types of instruments are used to style transactions such as land development. They are thus in fact partnership contracts, at first with commercial purposes, or simply when the parties need to make some capital yield a profit; later they were extended to other types of activities by a simple adaptation of some of their clauses.

The instruments dealing with the management of mortgaged patrimony likewise followed the model of the promissory note. The landowner who gave his land to be worked entered into a contract for farming (annual payment of a quantity, fixed in advance, of agricultural produce) or for sharecropping (division of the product of the harvest, whatever the total thereof, according to an agreed proportion between the operator and the landowner). Juridically, the op-

erator became the debtor when entrusted by the landowner, and the payment of the rent related to the settlement of a debt. In practice, it was sometimes the case that the operator was not able to fulfill all of his obligations. He then signed a new contract, which was a true promissory note, corresponding to the deficit between his theoretical rent and the amount that he had actually handed over. Sometimes the situation got worse, and the operator found himself absolutely incapable of meeting his obligations. Perhaps he then became the slave of the landowner, but this practice appears only very rarely in the first millennium, though it is well attested in the second millennium under the dynasty of Hammurabi. It seems that most often the landowner seized a part of the operator's holdings and looked for a different farmer. Most landowners did not seek to drive their debtor operators into bankruptcy, because they remained more interested in regular revenues from their lands than in practicing rural usury.

TRANSACTIONS

Ordinary financial and commercial transactions in Achaemenid Babylonia used precious metals, primarily silver, but did not have recourse to coinage (see "Methods of Exchange and Coinage in Ancient Western Asia" below). In spite of the introduction of a bimetallic system by the Persian rulers beginning with Darius I, it is not until the Hellenistic period that coins are mentioned in Babylonian contracts. Silver was measured in traditional units of weight: the mina, about 500 grams (17.5 ounces) and its subdivision the shekel (1 mina = 60 shekels), as well as, more rarely, its multiple the talent (1 talent = 60 minas). Silver was used in the form of sheets stamped to guarantee the alloy, but also in the form of "blocks" (*kaspu šibirtu*), shavings, or pieces of jewelry, rings, and bracelets. Higher-quality silver was saved for the creations of the goldsmith, and commerce used silver allowing an alloy at a proportion of 10 to 20 percent. The most commonly found quality is called "alloyed one-eighth" (*ša ina '1 GÍN pitqa*). While silver metal is used for payment of taxes, purchase of valuable property (real estate and slaves), and

certain financial operations, the most usual exchanges remain on the level of barter, though commercial trade in the principal consumable goods (dates, barley, wool) exists and some contracts make reference to it.

Two examples illustrate the situation of leading Babylonian citizens engaged in financial or commercial transactions. They concern two lots of private archives, one found at Borsippa, twenty kilometers (about twelve miles) southeast of Babylon, the other at Nippur in central Babylonia.

The House of Ea-iluta-bani of Borsippa

The archives of the Ea-iluta-bani family of Borsippa were unearthed at the end of the nineteenth century by clandestine diggers and are now divided among various museums. They comprise about two hundred texts and are concerned with six generations living between 687 and 487. These archives consist of contracts of family law (marriages and inheritance divisions), sale contracts, and numerous documents having to do with the financial activities of this family.

These prominent citizens had a relatively limited fortune, the composition of which was, however, carefully distributed: several hectares (about 2.5 acres) of land in the immediate environs of the city of Borsippa, some slaves, and a certain number of claims in silver and grain. Until the end of the period that they document for us, these archives show that land was expensive. The most profitable crop was the date palm, but this tree requires significant irrigation and constant care from specialist arboriculturists. Revenue from the capital invested did not reach more than 14 percent per annum, and it was thus necessary to wait through several years of full yield before a real-estate purchase was amortized and the mortgaged patrimony showed a profit. The same problem appears with slaves, on which the revenue with respect to capital invested in their acquisition was on the order of 20 percent per annum.

To best manage this patrimony, familial solidarity needed to be reinforced, and it often happened that property was not divided among heirs in order to avoid fragmentation of land and

decrease in its revenue. Because each division of inheritance risked dispersal of this patrimony, marriage became a possible solution. The dowries wives supplied meant an increase in goods, especially in land and slaves. But there was always the risk that, when a husband died, the widow would seek to remarry outside the family. This situation arose on two occasions in the Ea-iluta-bani family, and it was then the brother of the deceased elder who married the widow, thus keeping the dowry within the family. By the same token, the marriage of a daughter was also a source of diminution of patrimony, for she took with her goods that were given to her in dowry. To remedy this problem, two sorts of arrangements were followed: the first was marriage within the family, as was the case for one of its members, Mushezib-Bel. Made a widower by his first wife, Hubbusitu (of whom he was, moreover, the second husband, because she had first married the elder brother of Mushezib-Bel and been widowed after a few years), he remarried, choosing his first wife's niece. The transfer of goods that comprised the dowry of this second wife was only nominal: the two branches of the family were already linked in the common management of goods by Hubbusitu's first marriage to Mushezib-Bel's brother. Another solution that could be adopted is illustrated by the case of Mushezib-Bel's daughter, Lurindu. She married someone called Akhushunu, older than herself and from a higher social status but a childless widower, after a first marriage entered into ten years before. The comparison between the dowries of the two successive wives of Akhushunu shows that Lurindu was clearly less well provided for than Kasirtu, the first wife. But she brought to her husband, aside from her youth, the potential of having children, and this advantage made it possible for the Ea-iluta-bani family to limit her dowry.

These manipulations of family and real estate illustrate the fairly limited nature of available assets of the majority of principal urbanites in Achaemenid Babylonia. Although land and slaves represented capital indispensable for assuring social position and the prestige that manifestly attached to the status of landowner, they were not sufficient: these families did not have capital sufficient for participating in large-scale commercial or financial operations, but nonethe-

less they invested their liquid assets, particularly silver and agricultural produce, in loans.

The surviving contracts show an approximately equal division between silver and agricultural produce (dates and barley) as the purpose of the loans. The quantities lent are quite variable in amount, and often on short term: 80 percent of surviving contracts are loans for a period of six months or less. These short-term loans practically never require interest or security. They reflect a momentary need on the part of the borrower to gain access to capital, and often express family or neighborhood solidarity; for the creditor, when a short-term loan involves agricultural produce, it represents a form of commercialization, and it assures him the availability of capital in the short term.

Nonetheless one also finds loans granted for an indefinite time, which involve either interest or security. In some cases both elements are present. The security then involves a real surety taken by the creditor. When there is only a security, one might hesitate between a true credit and a disguised hire of a slave or house. The interest granted is very often the "normal" interest of 20 percent per annum, but it can be less: some contracts mention interest of just 10 or 12.5 percent. In many cases, these loans of indefinite duration are granted by women and represent the means available to them of turning a profit on the part of their dowry that is in silver.

Agricultural produce is practically never loaned for an indefinite time. It appears, on the contrary, that loans of which it is the object frequently come due at the time of the harvest: in the eighth month of the Babylonian calendar for dates (end of autumn), and in the third month for grains (end of spring). Such transactions thus involve surpluses that have not been entered into normal commerce, because at this moment the price for these products is at its lowest. At the time when payment of the debt falls due, some months later, the creditor could hope to sell the barley or dates at an increased profit.

Taking into account the fact mentioned above—that we only have an inverted view of the financial activities of these prominent persons, because most of the claims that they possessed were destroyed at the moment the debtors were acquitted of them—we observe behaviors that reflect different personal situations:

Mushezib-Bel, for example, head of the fifth generation of the Ea-iluta-bani family, is recorded only five times as creditor, but for sums in multiple tens of silver shekels. He borrows seldom himself, an average of once every two or three years, except in some years, as in 540, when he entered into three debts in three months.

Akhushunu, who married Mushezib-Bel's daughter, himself also had interests in the financial circuit. He practically never borrows agricultural produce, but silver, in a sustained rhythm: at least once per year, and for rather important sums: an average between one and two minas. His creditors are often women, and one of them, Turinnitu, appears in several instruments. Even though we do not know the activities of Akhushunu in much detail, he seems to operate in a more well-to-do circle than Mushezib-Bel. According to the chronology of the archives, the latter borrows above all at the beginning of his career, doubtless for lack of personal capital; Akhushunu on the contrary handles money in a consistent manner and financial transactions represent an important part of his activities.

The archives of the Ea-iluta-bani family show that it maintained its level of wealth during all of the two centuries over which it is attested; but this level did not progress in a very significant manner. At the beginning of the sixth century, one of the very first members attested could invest in one fell swoop twenty minas of silver in a financial transaction, whereas his descendants in the Achaemenid period apparently had more limited capacities. This family, nevertheless, was able to escape the consequences of the historic reversals known by Babylonia: the war of independence against the Assyrians, the fall of the Neo-Babylonian Empire, and the coming of the Persians.

The House of Iddin-Nabu of Babylon

The example furnished by the Ea-iluta-bani family reappears in several lots of contemporary archives. Some are of modest size and permit us to trace the career of just one or two individuals. This is the case of the archives of Iddin-Nabu of Babylon: not being the eldest, he did not have access to the management of the family patrimony; but, having been adopted by one of his uncles, he inherited from him and then undertook real-estate transactions to make his capital

turn a profit. He bought houses which he then rented to tenants, and he can be seen little by little achieving the status of person of independent means, holding the office of sacrificer in the temple in his quarter, on the south side of Babylon, which he sublet to an actual performer; collecting the revenues from his houses; and progressively building up a small fortune which he transmitted to his son, as well as providing a dowry for his daughter and permitting her to conclude a marriage with another prominent person.

The House of Egibi of Babylon

The fullest lot of archives from this period at the beginning of the Persian Empire is that of the Egibi family, a vast ensemble of several related lines centered on Babylon, with branches found as far away as Uruk in southern Babylonia. These archives have not yet been the object of comprehensive study, but one can already state that the Egibis were one of the richest families in the country. Some of its members got a foothold in the royal administration and managed the domains of members of the royal family. The Egibi family itself possessed numerous agricultural properties around Babylon, several houses, and a large number of slaves. They are found to be involved in commercial activities, sometimes even beyond Babylonia, and they handled major capital. They thus represent the higher stratum of urban notables but did not participate in the reorganization of local power during the reigns of Darius I and Xerxes, because their archives stop suddenly at this point. It is possible that they were implicated in the anti-Persian revolts of this time, and their fortune manifestly suffered from it. It is necessary to wait more than half a century before finding another significant example of financial and commercial operations, that of the archives of the Murashu family.

The House of Murashu of Nippur

The archives of the Murashu family found at Nippur in 1893 during the excavations carried out by the University of Pennsylvania number at least eight hundred items. They illustrate the activities of a family of businessmen connected with the central authority during a rather brief period, covering just fifty years in all. The princi-

The Murashu Family

The descendants of Murashu ("Wildcat"), son of Khatin, who lived in the city of Nippur during the last half of the fifth century BCE, conducted lucrative business activities in that region over a period of two generations. At first the heads of their commercial "firm" were the two sons of Murashu: Enlil-khatin, attested between 454 and 437, and his brother Enlil-shum-iddin, attested between 445 and 421. In the late fifth century the affairs of the firm were taken over by their sons Rimut-Ninurta, Enlil-khatin, and Murashu (named after his grandfather), but their business was terminated probably by an intervention of the central authorities, which caused a sudden interruption of the archive.

The region of Nippur, which provides the geographical context for the business activities of the Murashu family, is characterized in the sixth and fifth centuries by a strong, West Semitic presence, though paradoxically the city was located in the very heart of Babylonia. Mostly on cuneiform tablets found at Nippur, we find Aramaic notations designed to help Aramaic speakers who could not read cuneiform writing to get a nutshell notion of the tablets' contents. The presence of names in the Murashu documents that seem particularly Jewish has long been noted, suggesting that descendants from the Judean exile population were still living at Nippur during the reigns of Artaxerxes I and Darius II. The canal called Kaberu that occurs in these archives is certainly identical with the river Chebar mentioned at the beginning of the book of Ezekiel as one of the places where Judean deportees lived. As characterized in the documents, however, nothing in the behavior of those bearing "Jewish" names makes them stand apart from other people living in the region, and the ethnic term "Jew" does not occur there. Many other West Semitic population groups are attested in the region of Nippur, which seems to have been a focal point for foreigners in Babylonia, who settled there as the result of deporta-

tions or were attracted by the system of military land tenures created by the Achaemenid rulers.

In the sample document from these archives given below (dated December 422 BCE), a man promises to perform the military service owed by a member of the Murashu family. It concerns a duty connected to a piece of land he holds as tenant. The Murashus will provide the cavalry equipment. Gadaliama, son of Rakhim-ili, declared of his own free will to Rimut-Ninurta, descendant of Murashu, as follows:

"Because Rakhim-ili adopted your brother Enlil-shum-iddin, you now possess the share of Barik-ili in the plow and fallow land held in tenure as 'horse land' by Rakhim-ili. Give me a horse with harness and reins, a *suḫattu* coat with neckpiece and hood, an iron armor with hood, a quiver, 120 arrows, some with heads, some without, a sword(?) with its scabbard, 2 iron spears, and I will perform the service attached to your share in the tenure land."

Rimut-Ninurta agreed and gave him a horse and the military equipment mentioned above, as well as 1 mina of silver for his travel provisions, in order to obey the royal order to go to Uruk in connection with this "horse land." Gadaliama bears responsibility for presenting the equipment given to him. He will show it for registration to Zabin, the man in charge of the secretaries of the army, and he will give the deed of registration to Rimut-Ninurta.

Witnesses: Enlil-keshir and Nergal-shum-ušur, sons of Ardi-Enlil; Enlil-shum-iddin, son of Tattannu; Aplaiā, son of Bel-shar-ušur, the man in charge of the *mārē-ḫisānu* serfs; Ardiya, son of Ninurta-akh-iddin; Ardi-Gula, son of Ninurta-iddin; Ardiya, son of Bulluta; Enlil-mukin-apli, son of Kasir; Nadin, son of Šilli-Ninurta.

Scribe: Ninurta-ab-ušur, son of Enlil-shum-iddin.

Drawn at Nippur, the eighteenth of Tebetu in the second year of Darius, king of the lands.

Translated from the French by Paul-Alain Beaulieu

pal participants in the contracts are, on the Murashu side, Enlil-shum-iddin and his nephew Rimut-Ninurta, as well as the agents of their organization, who are most often people of subservient status but entitled to enter into business contracts. The recurrence of the patronymic Murashu to designate these contractants at first led people to consider this family-type organization a firm of "bankers." In fact it is a commu-

nal family structure, analogous to that of the Ea-iluta-bani or Egibi families.

The activities of the Murashu are linked to the type of administrative organization that prevailed in central Babylonia under Artaxerxes I and Darius II. To ensure a base for recruitment to their army, the Persian kings had introduced a system that could be called "feudal," but which has some correspondences in the second

millennium in Babylonia. Lands were assigned to a family to ensure its livelihood and the supplying of a type of soldier. The importance of the land was in fact proportional to the type of military equipment that was to be furnished. The three principal categories were archers, who had the use of "bow land" (*bīt qašti*); cavalry, who had the use of "horse land" (*bīt sisî*); and charioteers, who had the use of "chariot land" (*bīt narkabti*). While the bow lands were by far the most common category, the horse and chariot lands were much more important in size, because furnishing a horseman or a chariot in fact presupposed equipping several people and more elaborate armament. This system began to be put in place just after the Persian conquest, but was systematized only beginning with Darius I, because it was accompanied by a deep reform in local powers. The occupants of the lands thus assigned were grouped into socio-professional communities called *ḥaṭru*, which were placed under the authority of a lieutenant assisted by several officials. The names of the *ḥaṭru* often reflect a military specialization, such as the "*ḥaṭru* of the shieldbearers of the right flank (of the army)," but could also be ethnic, such as the "*ḥaṭru* of Carians," or simply a craft, such as the "*ḥaṭru* of parchment makers." This type of organization thus structured the elements of society and had a tendency to replace the old communities linked to the sanctuaries or to the local powers of typically Babylonian origin. Each of these *ḥaṭru* represented at the same time both a group of people performing the same activities and a territorial group formed by the lands that were assigned to them to pay their salary. This system of military origin thus extended little by little into civilian society. But essentially these *ḥaṭru* still represented, under Artaxerxes I and Darius II, a system whose aim was to furnish soldiers.

The revenues of the bow land that a family possessed assured it simultaneously its subsistence and the means of equipping an archer who served in the royal army. Each year, the lieutenant of the *ḥaṭru* verified the state of the manpower and assigned domains to new occupants as necessary, in case the tenants of the moment were no longer able to fulfill their obligations.

Because the Persian army was not in permanent mobilization, the inclination arose little by

little to replace the furnishing of an equipped soldier with the payment of a certain amount of money representing simultaneously both the monetary equivalent of this furnishing and the various taxes that were linked to them. These payments amounted to at least one mina of silver, or the price of thirty to forty *kurru* of dates or grain (about 5,400–7,200 liters or 1,400–1,900 gallons). To the extent that the produce of the lands granted to the "feudatories" was no longer the furnishing of a soldier but the payment of a rent, a certain number of nominal possessors then granted their domain to operators on subcontract, while they themselves sought to pursue other activities.

At some point in this evolution, the domains granted by the king thus represented for the royal administration a source of revenue, in silver or agricultural produce, rather than a furnishing of troops. Shaped in the royal domain, these holdings of land in theory belonged only to the king. In fact, one observes that portions of them were gradually assigned as possessions to members of the royal family, among them Queen Parysatis, or to members of the high Persian nobility, who added them to the various properties that they possessed elsewhere in the empire. These high-ranking possessors were not their legal owners. In fact, only the enjoyment of their revenues was assigned to them, and these domains most often continued to be administered by royal functionaries. But this situation represented an additional deviation from the initial aim for which this organization was put in place.

At the same time, another factor came into play: as Matthew Stolper has brilliantly demonstrated in his recent study of these archives, the efforts of the Achaemenid rulers to exploit more and more lands in Babylonia led to a fall in the price of agricultural land, because it became relatively abundant, and a concomitant increase of the price of working materials (hand labor, animals, tools). Furthermore, nearly all of these lands were dependent on irrigation, and the water was furnished by canals whose management was a prerogative of the royal administration. The latter furnished water to users against payment, and in exchange maintained the canals in good repair. The use of an agricultural domain thus incurred user fees that little by little were raised beyond the means of an individual user.

The possessors of bow lands in particular, whether they operated them directly or put them at the disposal of an operator under subcontract, found it difficult to continue to ensure their own survival, what with paying the user fees and the taxes comprising the revenue drawn from it by the king or the high persons to whom he had granted their use.

It is here that the Murashu intervened: they offered themselves as intermediaries on two levels. On one side they proposed to the holders of bow lands to operate their lands, against payment of rent and satisfaction of their obligations to the royal power. On the other side, they guaranteed to the lieutenant of the *ḫaṭru* the collection of taxes and took over for defaulting operators. They were able to fill this role of intermediary because they had progressively accumulated, in the course of the family's economic expansion, means of operation in manpower, livestock, and farming tools, which meant that the user fees represented a much less serious cost for them than for the individual holder of bow land. They thus substituted their own operators for those of the "feudatories" and had the opportunity to rent from the royal administration the use of entire portions of irrigation canals with all of their components (reservoirs, diversions, secondary canals). The search for maximum profitability that characterizes the activities of the Murashu family is such that we find them renting (to operators who were not their dependents) the use of certain portions of these same canals, when they are geographically tributaries of the canals that they controlled. The increasing amount of land dependent on them permitted them, moreover, to accumulate reserves of agricultural produce sufficient to shelter them from the risk of bad harvests, which an individual operator found it more difficult to resist. Furthermore, the process of streamlining the working of the lands, which they applied in managing as efficiently as possible the equipment that remained their property, meant that they were almost the exclusive beneficiaries of accrued profits returned by these domains. The nominal holders of bow lands collected from the Murashu a rent which was paid regularly, but whose amount did not change. Likewise, the royal administration, represented by the lieutenant of the *ḫaṭru*, received from the Murashu rent there-

after without defaults, but did not draw any benefit from the real increase in revenue furnished by the lands.

The negative aspects of the system are especially clear when, at the death of Artaxerxes I, dynastic troubles shook the empire. The designated successor, Xerxes II, was assassinated by one of his half-brothers, Sogdianos, who mounted the throne. But he found a competitor in Ochos, the future Darius II, husband of Parysatis. Ochos raised an army and defeated Sogdianos and the nobility who supported him. As in each camp there were members of the high nobility who enjoyed revenue from land in the Nippur region that the king had allocated to them, they mobilized all of their resources and exploited their holdings to the maximum. Darius II for his part mobilized part of his army at Babylon, and apparently appealed to the "feudal landowners" to fulfill their military obligations or to provide the equivalent in silver.

This sudden demand for extraordinary funds drove a certain number of holders of bow land to bankruptcy, and Stolper has here again clearly shown the parallelism between the chronology of the troubles of the succession of Artaxerxes I and a large number of contracts entered into between the Murashu and "feudal landowners": the latter appealed to the Murashu to borrow the money corresponding to the taxes they were required to furnish, and as security they gave them the right to operate their lands. A list of contracts incurring the placement in security of lands shows that the number went from an average of fewer than five per year, in a normal year, to twenty, then to seventy at the time of dynastic troubles.

The reserves in agricultural produce and in silver accumulated by the Murashu made it possible for them to meet this increased demand for funds. But this crisis was fatal to a goodly number of "feudal landowners." Once the crisis passed, the Murashu found themselves holders of a considerably increased number of domains to exploit, along with enhanced possibilities of profits.

Nonetheless we find the activities of the family stopping abruptly after the tenth year of the reign of Darius II (circa 413). It is possible that this break-off in the archives is the result of chance, with only part of them having been re-

Sample Documents

Text 1

Itti-Marduk-balaṭu of the Egibi family provides to one of his slaves the necessary tools and commodities to open a tavern in the city of Khursagkalamma, east of Babylon. He is to collect the interest on the loan, as well as part of the income generated by the business (November 524).

Itti-Marduk-balaṭu, son of Nabu-akkhe-iddin, descendant of Egibi, has put at the disposal of his servant Ishunnatu (a value of) 1 mina of silver in the form of 50 jars of first-quality date alcohol together with a spouted jar, and two-thirds of a mina of silver in the form of 60 *kur* (about 10,800 liters) of dates, and 42 shekels of silver, the value of 2 bronze vats weighing 7.5 minas (about 3.5 kilograms or 7.5 pounds), 7 drinking cups, 3 bronze bowls, and 4 *kur* (about 720 liters) of celery salt, which are stored in the house, for a total value of 2 minas and 2 shekels of silver (about 1016 grams or about 2 pounds). She will pay the interest on this sum until the end of the month Ṭebetu (December–January).

This (transaction) excludes the equipment already at her disposal, namely: 5 beds, 10 chairs, 1 stew pot, 1 case . . . , 3 pairs of scissors, 1 iron spade, 1 ax, 2 brewing vats, 1 decanter, 1 stand for brewing vats

Witnesses: Remut, son of Aplaiā, descendant of Ardi-Nergal; Bel-apla-iddin, son of Remut, descendant of the potter; Tukulti-Marduk, son of Iddin-Nabu, descendant of the priest of the sacred podium.

Scribe: Kalbaia, son of Šillaia, descendant of Nabaia.

Drawn at Khursagkalamma, the eleventh of Kislimu in the sixth year of Cambyeses, king of Babylon, king of the lands.

Text 2

Iddin-Nabu lends a quantity of silver to Nabu-ushallim, who gives him his adopted sister as pledge for an unspecified period of time (dated 509).

Iddin-Nabu, son of Nabu-mukin-zeri, descendant of Sha-khatti-eresh, loaned to Nabu-ushallim, son of Nabu-shum-ibni, descendant of Esagil-mansum, 1 mina (about 500 grams) of certified 85-percent silver (i.e., 15 percent alloy), from his personal cash box, (and) suitable for commercial transactions.

As pledge for this mina of certified silver, Amtiya, the adopted daughter raised by his father, Nabu-mukin-zeri, and his mother, Mizatu. This servant will not receive any salary, and the silver will bear no interest.

Amtiya will be the servant of Iddin-Nabu. Nabu-ushallim bears responsibility for any claim on Amtiya that should be brought by another creditor.

Witnesses: Bel-kasir, son of Nabu-shum-ibni, descendant of Esagil-mansum; Itti-Nabu-balaṭu, son of Nabu-iddin, descendant of Mubannu; Shamash-eresh, son of Bel-apla-iddin, descendant of Re'ani; Remut, son of Shamash-shum-lishir, descendant of Maqartu; Purshu, son of Gimillu; Itti-Nabu-guzu, son of Ea-epush.

Scribe: Bel-iddina, son of Nabu-eṭir, descendant of Eṭieru.

Drawn at Borsippa in the thirteenth year of Darius, king of Babylon and the lands.

During two years, until the fifteenth of Nisanu (March), Nabu-ushallim and Iddin-Marduk will each provide an equal share of Amtiya's clothing.

Translated from the French by Paul-Alain Beaulieu

covered. But it is also probable that the very success of the Murashu family proved fatal and that the royal power could ill tolerate the presence of an intermediary between its administration and the "feudal landowners," an intermediary that had a tendency to become the exclusive beneficiary of the increase in land revenue. The "feudal landowners" forced to put their lands in security were unlikely to have been friendly to the Murashus and to their success. It is also possible that the links developed between the members of this family and members of the high Persian nobility who had chosen to side with the adversaries of Darius II cost them the favor of the new ruler and his representatives.

In sum, the Murashu family illustrates a very special type of activity. It was not a banking firm but a group of businessmen who combined financial, commercial, and agricultural activities. By lending to the "feudal landowners," they built up capital that permitted them to streamline the operation of lands and to draw from them new profits, of which they were allocated the greatest part. Like the Egibis a century earlier, they equally took responsibility for the payment of certain taxes levied by the king. For a short time, they were the principal beneficiaries of the economic boom in Babylonia.

This region thus appears, in the Achaemenid period, as a world of annuities: annuities deriving from land or built-property revenues, from

the labor of slaves, of from silver invested in loans or commercial transactions. Aside from a few cases, however, these transactions are small in scale, because they involve limited capital. Only the sanctuaries and the royal power possessed sufficient means in land, in labor, in agricultural produce to have a great deal of capital available. But their own needs, religious and political, meant that they invested in circles other than those of commerce or finance.

Translated from the French by Peter T. Daniels

BIBLIOGRAPHY

General

G. VAN DRIEL, "Continuity or Decay in the Late Achaemenid Period: Evidence from Southern Mesopotamia," in *Achaemenid History: Sources, Structures, and Synthesis*, vol. 1, edited by H. SANCISI-WEERDENBERG (1987); MATTHEW W. STOLPER, *Entrepre-*

neurs and Empire: The Murašû Archive, the Murašû Firm, and Persian Rule in Babylonia (1985); and R. ZADOK, *On West Semites in Babylonia During the Chaldean and Achaemenian Periods* (1977).

Sources of Texts

A copy of the document translated from the Murashu archives is found in HENRY FREDERICK LUTZ, "An Agreement Between a Babylonian Feudal Lord and His Retainer in the Reign of Darius II," *University of California Publications in Semitic Philology* 9, no. 3 (1928); the edition is from GUILLAUME CARDASCIA, *Les Archives des Murašû* (1951), pp. 179–182.

The document from the Egibi family was copied by JOHANN N. STRASSMAIER, *Inscripfen von Cambyfes, König von Babylon* (1890), text no. 331; it was also edited by FRANCIS JOANNÈS, "Inventaire d'un cabaret," *Nouvelles assyriologiques brèves et utiles* 64 (1992).

The translation of the Iddin-Nabu loan was copied from a tablet by JEAN-MARIE DURAND, *Textes babyloniens d'époque récente* (1981), plate 71, text AO 20172; see also the edition by FRANCIS JOANNÈS, *Textes économiques de la Babylonie récente* (1982), text no. 69, pp. 274–275.

SEE ALSO *The History of Elam and Achaemenid Persia: An Overview* (Part 5, Vol. II); *The Economy of Ancient Western Asia* (Part 6, Vol. III); and *Methods of Exchange and Coinage in Ancient Western Asia* (Part 6, Vol. III).

Methods of Exchange and Coinage in Ancient Western Asia

DANIEL C. SNELL

ONE CAN DIVIDE THE MASS of data on the circulation of goods in the ancient Near East into those involving barter and those involving exchanges of goods for moneylike substances, for precious metals, and for coins. Most information comes from royal and temple sources, so we are not usually informed about exchanges among more private persons.

The ancient Near East was the time and place where something like modern money was first used. The normal definition of money may depend too much on modern experience, but most economists today would say that money is something that can be (1) a means of exchange, something that people use when they want to acquire something else; (2) a mode of payment, something that people give to settle debts or tax obligations that might not involve the receipt of anything else; (3) a standard of value, something to which people may compare other things when they are seeking to explain hierarchies of value and to render accounts in a uniform way so that loss can be minimized; and, according to some economists, (4) a way of storing wealth.

In non-Western economies there frequently are attested moneys that are used for some of the above purposes but not for others, and moneys that may be used in some social spheres but

not in all. Thus, we make a distinction between general-purpose money, which may be used in all the four modern functions, and special-purpose money, which is used in one or more but not in all. The ancient near eastern data usually are not so clear as to answer the question of whether we are dealing with a special-purpose money, and we have much more information on the use of money as a means of payment than on other functions.

BARTER

Barter is the exchange of one commodity for another. Though this must have been a very common occurrence throughout the premodern world and is certainly a practice that continues today, to the chagrin of modern tax-collecting agencies, evidence for it from the ancient Near East is meager. There are texts recording exchanges of one piece of land for another at Mari (modern Tell Hariri) in eastern Syria and a bit later at Sippar (modern Abu Habba) in northern Babylonia, and some Ugaritic texts concern exchanges of pieces of land. And Old Babylonian letters record dates and oil given for a garment, and wool for several garments; several other bar-

ter transactions are attested in such letters. But there is little evidence of the habitual or wide-scale exchange of miscellaneous commodities for others. There is much information on the exchange of moneylike substances—that is, substances habitually used for exchanges and having some of the attributes of modern moneys.

Some have argued that trade in most ancient societies can best be understood as an exchange of gifts with the expectation of reciprocity. This may have been the case in international trade between rulers, but it is hard to exclude the possibility of the existence of other kinds of exchanges in most periods. And barter cannot be understood simply as a gift exchange; it may be pursued for the same crass economic advantage as any dealing in money. Even Herodotus's description of barter between Carthaginians and "Libyans" on the west coast of Africa (4.196.1–3) implies the use of gold as a money, since the Carthaginians left gold in increasing amounts until the locals were satisfied with the price. In spite of cultural differences, the gold was accepted as a money. To some extent the absence of clear barter exchanges may be a matter of definition, since early students of the ancient Near East usually assumed that payment in grain, for example, was barter, even though there is evidence that grain did serve as a money.

There are many instances in which salaries were paid in foodstuffs and clothing. This is obvious in the labor texts of the Third Dynasty of Ur (circa 2100 BCE), although when grain was used, as it frequently was, it may be that the usage fades into that of a money. There is also good evidence from the Ur III period that taxes could be paid in sheep, especially at the big government animal pen at Puzrish-Dagan near the religious center of Nippur (modern Nuffar). The place was a clearinghouse for all sorts of in-kind payments, from goats to jewelry. Egyptian officials in most periods were paid in goods, even in the New Kingdom, when gold was plentiful and was widely used elsewhere as a money. But such usages were not the same as barter.

Governments found it useful to receive and disburse animals and consumable goods to people and institutions that they supported. This was especially true in periods when there was not easy access to well-stocked markets for metals or moneylike objects to be turned into consumables.

An instance of barter in the Bible is seen in 1 Kings 5:9–11 (Hebrew text 5:23–25), where Hiram of Tyre and Solomon exchanged trees to build the Jerusalem temple for grain and oil; Hiram also received twenty "cities" as payment for gold (1 Kings 9:10–14). Because this transaction was so big and international in scope, it cannot be taken as typical or indicative of a predominately barter economy in the tenth century BCE.

In ancient Israel, taxes could be paid in kind. Mesha of Moab's tribute came in lambs and wool in 2 Kings 3:4, and during the exile in Babylon, Ezekiel (45:13–16) assumed gifts to the temple would be in the form of wheat, barley, oil, and sheep. In 1 Samuel 8:15 the prophet warned the Israelites who wanted a king that the king would take one-tenth of their crops and orchards. Furthermore, the terminology for wealth includes *miqneh* (bought things), usually meaning "sheep" or "cattle" (Genesis 13:2).

MONEYLIKE OBJECTS

There are objects of metal that have been suggested as precursors of coinage. They may have embodied some aspects of later coins. From the Ur III period comes a group of texts that details the disbursement of rings of silver to favorites of the king, usually on the occasion of their arrival from a journey. The rings numbered from one to five and weighed between 5 and 10 shekels (between about 40 and 80 grams, or about 1.5 and 3 ounces). We do not, however, see that these rings were used in other ways as money. Their production may have been a convenient way to distribute and to keep silver (see fig. 1).

Text references from the Old Akkadian period through the Old Babylonian refer to the casting of precious metals into rings, and it is certain that such objects were used at least for storing the metals and possibly served other functions of money. The Ur III texts about casting show that the ring did not always contain the full weight of the silver that was supposed to go into it, but such objects were weighed when they were exchanged anyway.

The ring as a kind of money appears in the Old Babylonian period when one of the wheeling-and-dealing priestesses in the north-



Fig. 1. Silver rings and coils from Mesopotamia.
COURTESY OF MARVIN A. POWELL

ern city of Sippar referred to land she bought as paid for with her “ring (money).” As with the silver rings of Ur III, there does not seem to have been any other use for the items, if in fact silver rings physically existed and the term did not refer to freely disposable spending money (English “pin money”). After the Old Babylonian period there is no further textual evidence of rings used as money.

Other terms continued to be used in ways suggestive of a systematization of exchange. Some silver may have circulated as *šibirtu* (broken) pieces, and beginning with the Middle Babylonian period the term *bitqu* (a cutting, one-eighth shekel) was used. Other bits were termed *nuḫḫutu* (trimmed?) from a verb meaning “to trim or clip”; shaving rather than coining may be intended. Some metals were said to have a *ginnu* on them, perhaps a mark indicating weight or purity.

Even though rings or coils are not attested in texts after the Old Babylonian period, the hoard of silver found at Megiddo in Israel from the early first millennium included some curved rods that might derive from coils. And it has been suggested that coinage itself may be best understood as smiths’ hacking off bits of a uniform weight from large coils; stamps were perhaps added to certify that the bits had been weighed and found to be accurate.

Gold rings are mentioned in texts from New Kingdom Egypt and are also pictured in scenes of tribute delivered from the country’s Nubian possessions. Copper blades have been found that weigh one *deben* (91 grams, or about 3 ounces) and may have served at least as a standard of value and a way to store wealth. There is also some evidence that a standard weight of

7.6 grams (0.2 ounces) of silver existed; some scholars see this as a near approach to coinage.

In Old Babylonian Mari and also in the late second millennium at a number of sites there was an exchange of gold and silver cups that may have had a standardized weight, though texts show that they had to be weighed when they were exchanged. These cups may have had the function of a special-purpose money. At Mari it is clear that the distinction was made between the actual weight of such objects and their value, which usually was higher.

Two literary texts from Ugarit on the Syrian coast contain comparisons of tears to shekels and to quarters and fifths of shekels, presumably of silver. These references may imply that silver weights were recognizable and had some of the characteristics of later coins.

At Asshur (modern Qalat Sharqat) in northern Iraq, leaden “roundels,” little round bits of lead stamped with a decoration on one side only, from the Middle Assyrian period have been found. It has been proposed that they were used as small change in a system approximating coinage. But we do not have references to them in contemporary texts, and we do not find them in very large numbers. They may have been more decorations than a means of exchange.

Texts from Neo-Assyrian times refer to stamped ingots of bronze that embody fixed, government-certified weights and may have served as a means of exchange in very large denominations. When mentioned in actual documents, ingots were usually connected with loans from temples, and they may have been issued by the temples. Silver ingots of this period from Zincirli (pronounced Zinjirli) in Turkey have incised or stamped inscriptions reading “belonging to Bar-rakkub, son of Panamuwa,” a king known from other documents. Though the inscription might indicate that the objects belonged to the royal treasury, it might mean that the weights of the silver were guaranteed by the king. Three such objects are known; they are disks about 9 centimeters (about 3.5 inches) in diameter and weighing, respectively, 497, 450, and 255 grams (17, 16, and 9 ounces), equivalent to about 60, 50, and 30 shekels. The two found in archaeological contexts were in a palace.

Another group of ingots that is nearly contemporaneous comes from Nushi-i Jan, southeast of Hamadan in Iran. It includes silver bars, two of

Ugaritic Literary Texts

The poem about Aqhat tells of the adventures and eventual death of a royal hero who may have lived before 1500 BCE, but the copies of it come from before 1200 BCE. The poem about Keret may date as early, and it chronicles the efforts of the king of that name to find a suitable wife. Ugaritic clichés can appear in different contexts and are part of the poetic art of the poets. In this case the repeated clichés appear to indicate a familiarity with fractions of a silver shekel, though we have no contemporaneous archaeological indication that standardized, weighed money was being used. The image evoked is of splashing tears resembling flashing metal.

. . . and let him not pour out (his) tears like quarters of shekels which [. . .]. (*Aqhat* 1. 82–83, in a broken context)

And [the hero] cried, and his tears gushed like shekels to the ground, like fifths on his bed in his weeping, and he slept. (*Keret*, lines 27–30. From C. Gordon, *Ugaritic Textbook*, 1965, pp. 245, 250)

which weigh 12 shekels each (about 100 grams). Though ingots with no inscriptions certainly circulated, the existence of the inscribed variety suggests that one of the advantages of later coinage may have been envisaged, the notion that an official certification in the form of a stamped or incised inscription might reduce the need for weighing. Similar ingots of copper have been found without decipherable stamp inscriptions, and several stamped ones were found in a shipwreck from around 1300 BCE off Cape Gelidonya in southern Turkey. These are called oxhide ingots because, to facilitate their hanging and transport, they were shaped to look like the cured skin of an ox. Since they vary in size and weight,

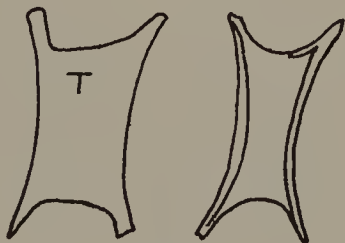


Fig. 2. Ingot from Cape Gelidonya, Turkey.
INSTITUTE OF NAUTICAL ARCHAEOLOGY, TEXAS A&M
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it is unlikely that those ingots formed part of a monetary system (fig. 2).

There are also references in the Bible indicating that other objects besides silver were exchanged, though it is not certain whether those were valued for their artistic worth, for the amount of precious metals they contained, or for their monetary use. In Job 42:11, the restored Job received from each of his friends a weight (of silver?) and a gold ring, perhaps as a form of money. The booty from Jericho included a “tongue of gold” weighing fifty shekels in Joshua 7:21. In Genesis 24:22, Abraham’s servant gave Rebecca bracelets and a ring of specified weight when he hoped to convince her to return with him to marry Isaac. Throughout the ancient Near East, people may have been given rings and other baubles, but could they readily use them to make other purchases?

We can infer that because of their heavy weight and their rarity, none of the ingots, and probably none of the rings, served as a common currency for ordinary people. The ingots may have served as standards of value, as a mode of payment for big purchases, and certainly as stored wealth, but it is unlikely that they were a widespread means of exchange. Had they served as such, we would probably have found many smaller ingots in excavated sites. Even though the ingots cannot be regarded as a form of coinage, it is nevertheless important not to claim that “true” coinage developed only in Greece. Here, as in other areas of cultural endeavor, the Greeks were building on ancient near eastern experience. Coinage was not another “Greek miracle” but a development from earlier practices, and various moneylike objects may have been forerunners.

METALLIC EXCHANGES

Metallic exchange and exchanges using other money systems are much better attested. For modern people used to economies that function on a single standard, the variety of media for exchange can be confusing. Metals were imported to Mesopotamia but were available on its periphery, and copper, bronze, gold, and silver were all used as moneys in the sense at least

A Neo-Assyrian Royal Inscription

The Assyrian king Sennacherib, who reigned from 704 to 681 BCE and was very interested in technological development and building, mentioned casually in a building inscription that he had some decorations cast in a mold just as one cast half-shekels. The reference is tantalizing since it implies that casting such weights, or even coins, was familiar to the public addressed. But the reference is unique and may not refer to a system of cast metals embodying some of the aspects of coinage. Sennacherib also boasts of casting colossal animals to adorn his new palace, a contrast with the primitive projects of earlier kings:

But I, Sennacherib, first among princes, wise in all craftsmanship—great pillars of bronze, lion-colossi . . . which

no king before my time had fashioned—through the clever understanding which the noble Lord of the pure eye (Ea) had given me, and in my own wisdom, I pondered how to carry out the task, and following the advice of my head and the prompting of my heart I made the work of bronze and cunningly contrived it.

Above great posts and crossbars for twelve lion-colossi, as well as for twelve strong bull-colossi, perfect in shape, and twenty-two cow-colossi, which were clothed with exuberant strength and with abundance of might and vigor, at the command of God himself, I fashioned clay molds and poured bronze in them, and I made their figures as perfect as in the casting of half-shekels. (After David D. Luckenhill, *The Annals of Sennacherib* [1924], p. 109)

that they were paid for other things. In most periods the money of preference was silver, probably because of its greater availability than gold and, hence, its relatively lower value.

Silver and other metals were weighed on a scale to determine the amount, and if smaller amounts were needed, the metal block or wire was broken into smaller pieces that were then weighed. Ancient texts do not describe the physical process of weighing, though it is constantly referred to. We derive some of our notion of the process from the etymology of the Akkadian word for silver, *kaspum*, meaning “the broken thing”; cognate words are found in most of the other Semitic languages, including Biblical Hebrew’s *kesep*. Other terms in Akkadian indicate that broken bits of silver were frequently used, and the process of breaking metals and weighing them is widely attested for precoinage eras in many languages. Though this process seems cumbersome to people used to dealing with coins, it continued long after coinage was introduced.

For example, an Ur III text shows the purchaser of a slave weighing silver:

¹ [man?], his name Itur-i[lum?], his price 6 shekels of silver, the supervisor of the house of the goddess Inanna weighed out to Lugal-usar, the merchant. (Translation by Piotr Steinkeller, *Sale Documents of the Ur-III Period*, 1989, pp. 172–173.)

During the third millennium BCE, traders from Early Dynastic Shuruppak (Fara) used metals as money; Enkhegal, prince of Lagash-Girsu, used copper and grain; and Uru-inimgina (Urukagina), a later ruler of Lagash-Girsu, required some taxes and fines to be paid in silver.

In the middle of the third millennium BCE, Ebla (modern Tell Mardikh) in northern Syria had huge amounts of silver, which probably indicates that the metal there was used not just as a unit of value but also as a means of payment. The texts appear to distinguish between amounts of silver used as equivalents of goods and those that were prices; we do not know what that distinction really meant.

In other instances before Sargon of Akkad, grain was used as a money, and in the obelisk of Manishtushu, recording that king’s land purchases, the price was calculated both in grain and in silver. Officials were paid in silver, and even workers sometimes got some silver in the Old Akkadian period. Copper was used less and less as a money and apparently came to be valued solely for its industrial uses.

In the Ur III period in southern Mesopotamia the government at the city of Lagash-Girsu used barley as a standard to evaluate goods it distributed, but it used silver to pay for goods it bought from persons not directly under government control. Rations or salaries were thus paid in grain, and funds, stated in terms of grain, were moved

An Old Akkadian King Buys Land

A monumental text from about 2260 BCE records the king purchasing land from several families. He paid in grain, the price of which was then calculated in silver, along with miscellaneous objects and articles of clothing. But the latter appear only as part of the additional gift to family members selling fields. The first section of the text is as follows:

[] Manishtushu, the king . . . bought
[439 iku of land]
[its price]
[1463.1.2 of barley]
[—the price of]
[1 shekel of silver]
[being 1] measure of barley—
its silver (price) is
1,463¹/₃ shekels of silver,
the price of the field,
219²/₃ shekels of silver,
additional payment of the field. (From Ignace Jay Gelb
et al., *Earliest Land Tenure Systems in the Near East: Ancient Kudurrus*. 2 vols., 1991)

from one government bureau to another. When goods were purchased from private individuals and groups, though, silver was the money of choice. A conversion ratio was conventionally assumed of one shekel (8.33 grams or 0.3 ounces) of silver being equal to one *gur* (about 306 liters or 8.5 bushels) of barley; this conversion was a frequently attested price in the period, but it was not the only price. The scribes chose it for its convenience and relative constancy for their internal accounting; by using it, they did not have to refer constantly to the current market price.

Elsewhere in the late third millennium, we find apparently private loans at Nippur, some given in barley evaluated in silver and some in silver evaluated in grain. The social context of the two kinds of texts does not seem to be different, but the purposes of the loans may have differed. This pattern has parallels in other multi-currency systems, where payments for some things are always made in one currency and payments for others are always made in another. The cultural situation determines what form of money will be used.

In the same period in another southern city,

Umma (modern Tell Jokha), silver was used by merchants on government purchasing missions to buy both domestic and foreign products. The merchant overseers recorded the prices in silver both of goods regarded as capital and of the goods purchased. The capital frequently consisted of grain and other agricultural goods the government produced; the merchants apparently changed it into silver to make their purchases. Though the records of the distribution of the goods purchased are surprisingly complete in some instances, the merchants did not have to document the actual purchases, and so we do not know if some or any of the deals were made with grain. Silver was probably the predominant means of exchange, since some texts have no grain at all as capital, only silver.

The advantage of using grain as money was that, like the precious metals, it had a universally recognized, if much lower, value, and if it was kept dry, it could be stored for several years. It was also like metal in that one handful of it was exactly replaceable with another. The Ur III merchants may have preferred silver because it was lighter to carry when they traveled in search of goods to purchase.

The Old Assyrian trade used silver as a money when trading textiles and tin, imported via Elam, for Anatolian silver and gold. The traders were apparently private entrepreneurs who made tremendous profits, usually without government interference.

In the Old Babylonian period, in the first half of the second millennium BCE, grain and silver were widely used as standards of value and as means of exchange; there are more recorded prices in silver than in barley. Small cattle and barley are occasionally used as standards of value, but cattle were not normally used as payment. Only barley and sesame oil were actually paid, along with silver. The amounts of silver were always small, and tradesmen were sometimes paid in it. Again silver may have been used more for long-distance trade. It was also used by people of almost every status.

Barley does not appear to have been limited to internal government accounting. The ratio between the values of silver and grain continued to be approximated at one shekel of silver to one *gur* of grain. It is thus less clear in the Old Babylonian period than in Ur III Lagash-Girsu

A Third-Millennium Merchant's Account

The merchants of Umma in the Ur III period reported their capital and their purchases, and gave the silver values of each commodity. An excerpt from one of their texts follows:

79 shekels, 97 grains of silver, balance carried forward of the sixth year of Amar-Suen
630 pounds of wool, its silver worth 63 shekels
580 pounds wool, its silver worth 58 shekels (registered?)
the first time
300 pounds KU.GI-wool, its silver worth 30 shekels
its loss is 10 shekels
via Lu-Enlila

30 gur of dates, its silver 25 shekels
Total: 265 shekels, 88 grains of silver
It is the capital.

Expended from within the above:

69 pounds of a resin, its silver worth 6 shekels, 160 grains
29 $\frac{1}{3}$ pounds of another resin, its silver worth 2 shekels, 80 grains

. . . Total 130 shekels, 43 $\frac{1}{2}$ grains silver.

It is what was expanded.

Remainder 135 shekels, 44 $\frac{1}{2}$ grains.

Balanced account of Ur-Dumuzida, the merchant. (From D. C. Snell, *Ledgers and Prices: Early Mesopotamian Merchant Accounts*, 1982)

how one chose the money in which to pay a particular debt; there were probably customs that dictated usage, but they are not discussed. The letters of the period contain numerous orders for goods that were to be paid for in silver or in grain.

Documents from contemporaneous private sources seem to increase during the Old Babylonian period. But even apparently private persons frequently proved to be involved in palace-sponsored enterprises, making it unclear whether one should categorize them as officials or as private persons.

In the Akkadian correspondence preserved at al-Amarna in Egypt, a great deal of exchange is recorded among the royal courts of western Asia. Gold was the major commodity Egypt was trading. By then, gold had become the standard of value in international affairs, perhaps due to its increasing availability when Egypt could extract it from the deserts east of the Nile and acquire it in tribute and exchange from peoples in Nubia and farther south. The trade itself had some aspects that might appear irrational, as when a ruler on Cyprus, which lacks naturally occurring gold, sent the Egyptian king some gold while expecting more gold in exchange. But the overall goal of the trade was rational in that it sought to spread material goods plentiful in one region to the rulers of other regions, and the exchange made possible international cooperation across vast areas.

The use of metals as money varied widely in the ancient Near East. In southern Mesopotamia, gold was used in exchanges in the Middle Babylonian period, too, but we eventually see the use of other substances as moneys. The earliest use of silver as a means of exchange in southern Babylonia came only in the second year of Shagarakti-shuriash, about 1250 BCE. In Egypt, gold, silver, copper, and grain were used in the New Kingdom as a standard of value. But silver became more important than gold over time. Rarely was a payment actually made in metal or grain; goods were used in most instances. Land sales, attested from the Old Kingdom on, could be paid for in goods, such as cattle, but were frequently calculated in silver or copper. In the Middle Assyrian laws, fines were paid with tin. In the contemporaneous Hittite Empire copper was the most popular money, though silver and gold were also used.

In contrast to the situation reflected in the Amarna letters, the archives from Ugarit on the Syrian coast give a range of prices—for products including livestock, lumber, food, and clothing—that are most often reported in silver. There are two possible cases of barter, but they seem to have ceremonial contexts and thus may not be typical of the economy as a whole; the same is true of a purchase in gold. Some common products, including wheat, barley, oil, and wine, have no prices recorded, so we know that our data are fragmentary.

After the incursions of the Sea Peoples around 1200, the economies that emerged relied predominantly on silver as a major currency. Egypt was much weaker than formerly; and its access to neighboring regions, and thus to gold, may have been diminished. There was no longer the international trade seen in the Amarna letters in the previous period, but a mix of currencies continued to be used.

In the Hebrew bible most prices are given in silver, though there is a scattering of prices expressed in grain and other commodities. For example, in Hosea 3:2 the prophet paid for an adulteress as a slave wife 15 “silver” along with one and one-half omers (about 330 liters) of barley.

Most biblical stories, even those the Hebrews set in very early periods in their history, assume a money economy with silver as the most important means of exchange. Abraham was paid one thousand (pieces of) silver by Abimelech to compensate for potential damage in one of the wife-sister incidents in Genesis (20:16). Genesis 42:35 has Joseph’s brothers discover that their silver was still in their sacks, even though they thought they had bought grain with it.

Land sales, such as those in Genesis 23:15f., have silver as the money of exchange: for a cave in which to bury his wife, Abraham paid 400 shekels (in Israel a shekel was 11.5 grams, or 0.4 ounce) of silver “passing for the merchant,” perhaps meaning “currently acceptable among merchants.” This and other stories are likely to reflect the land values of the time of the later exilic editors and perhaps also the money uses. Other land sales also use silver, as in Genesis 33:19, 2 Samuel 24:24 (though the parallel text from 1 Chronicles 21:25 turns the 50 shekels of silver into 600 shekels of gold, an alchemy probably contrived to enhance the story), 1 Kings 16:24, and Jeremiah 32:9. Smaller purchases may also have been made with silver: In 1 Samuel 9:8, Saul’s slave had a fourth of a shekel to pay for a consultation with a seer, and the husband of the “strange woman” in Proverbs 7:20 took a bundle of silver on a journey.

The documents from the Persian court at Persepolis show a mixture of goods and silver for payments of salaries, but after 490 BCE silver became a more popular means of payment.

COINAGE

Coinage was invented in the ancient Near East, in Lydia in what is now western Turkey; it caught on in Greece and became popular there, starting at Aegina, an island lying off the Athenian coast. The earliest Lydian coins may date to 650 BCE, but Greek coins are not found before 575, and they did not become widespread before 550 (see fig. 3). The Lydian coins that have been found were made of the locally available electrum, a natural alloy of gold and silver. They were discovered at the city of Ephesus, in a foundation deposit under a temple, along with other precious objects put there presumably as an offering to the temple’s god, Artemis. The archaeological findspot does not, therefore, help explain the true function of the coins.

Coinage may have begun as a way of certifying the weights of bits of metal. The administrators who first issued such coins probably were guaranteeing to purchase them back at the value of

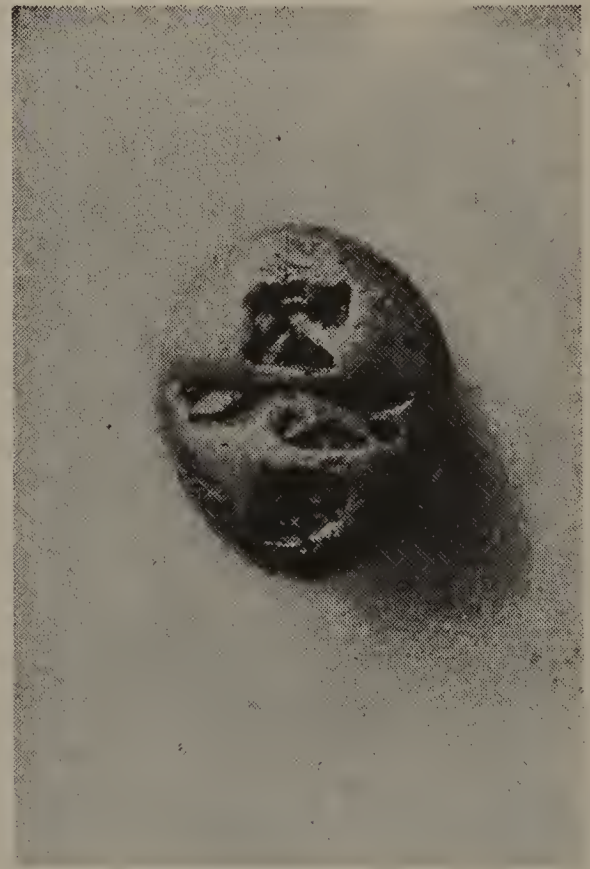


Fig. 3. The earliest known coin. Discovered at Ephesus, Lydia, it dates to the time of Gyges (687–652 BCE). N. ANGELL, *THE STORY OF MONEY* (1929)

the weight in them. But since this was not always convenient or believable, weighing continued. This distrust of authorities issuing coins was exacerbated by the tendency of coin users to shave bits off the coins; many ancient coins show signs of tampering. Counterfeiting, too, is almost as old as coinage. These problems with coins may have contributed to slowing the pace with which the areas of the ancient Near East adapted the new kind of money when it was introduced. Also, the economies of the region had been functioning smoothly for thousands of years without coinage, and most people probably saw no advantage to using the supposedly standardized bits of metal.

Current views hold that coinage was devised as a way to standardize payments by states to mercenary soldiers. There is an absence of small-value coins in many cities, and this may indicate that the goal of coinage in Greece was not use in local retail trade. Because the standard weights were stamped with symbols of the states, the coins became a prestige item. States, at least in Greece, may have competed in creating beautiful coins, in hopes that they would become popular. The state might have exploited the widespread use of coins to assert its economic dominance in other ways. Thus, the coins of Athens seem to have functioned as political banners for the expansion of the Athenian "empire" of city-states. When Athenian coins reached the Near East, they were the most common for decades before the Macedonian conquest in the fourth century BCE.

There have been doubts that the right to coin was a statement about sovereignty. In fact, we find uniform autochthonous coins only in Egypt, where the government was able to control the influx of coins. The evidence for this from the Hellenistic period, and the lack of identification of the state's sovereignty with its coins must have been greater in earlier periods. Still, the fact that even satraps (Persian governors) had the right to coin makes it quite likely that around the Mediterranean there was at first no special link between political autonomy and the right to coin. The story in Herodotus 4.166 about a Persian viceroy of Egypt who tried to rival the purity of King Darius's gold by minting his own silver coins does not justify the assumption that

the right to issue coins was limited. Rather, the tale suggests that the try for great purity of metal was seen as rebellion.

As time went on, issuers of coins minted units of small as well as large values. But where coins are found in hoards, high-value coins continued to predominate. This fact shows that even in Roman times, coins may not normally have been used in the full range of retail sales.

In a hoard from what is now Kabul, Afghanistan, dated about 380 BCE, there is a coin with a cuneiform inscription. But study shows that it actually was a part of a tray or box-top from a Persian palace that had been cut up and was being kept with other coins for its silver content.

In spite of the widespread acceptability of coinage, precious metal in the form of bars continued to circulate alongside coins even in Greece. And very wealthy persons continued to prefer to store wealth in the form of plate, which frequently corresponded to the Persian weight system and not to the local Greek system, perhaps because standards for great wealth were felt to be set in Persia.

The earliest biblical reference to coinage, in Ezra 2:69, anachronistically terms the gold coins "darics" (Hebrew *darkemôn*) even though Darius did not reign until later. The reference, however, does indicate that Persian gold coins were used to pay taxes. Nehemiah 7:70–72 and Ezra 8:27 refer to "darics" along with gold, silver, and priestly robes. The reference in 1 Chronicles 29:7 to "darics" (Hebrew *'adarkôn*) in David's time is even more anachronistic. Otherwise coins are not clearly mentioned in the Hebrew Bible.

The House of Egibi in Neo-Babylonian and Persian Babylon was in the business of renting out fields for absentee landlords. Though the family's activities have been compared to those of a bank, they seem more like a company involved in real-estate management. The House of Murashu of Babylon, in business in the last half of the fifth century, rented out royal lands to tenant farmers and was also involved in converting agricultural products into specie. Its entrepreneurs valued precious metal for its weight; the texts do not make it clear whether the Murashu used coinage. In Babylonia, Athenian coins are not attested until after 280 BCE.

Archaeologically, coins are meagerly attested in the ancient Near East before Alexander III "the Great." The Phoenician city-states of the Syrian coast began coining as early as 450, when they were under Persian domination. Some would argue that the lateness of coining in Phoenicia resulted from Persian policy, which attempted to limit expressions of independence, but it is possible that inertia and attachment to the old ways were more important. The earliest coins minted in Palestine were from Gaza around 400. Alexander's coins show up everywhere, probably because he was paying his troops with coins and they were spending them among the populations through which they moved.

It seems odd that the most diversified economies of the times, those in the Near East, did not embrace the simplicity brought by coinage, but it is clear that they did not. The reason was certainly that it was not regarded as an innovation. The stamping of metals was not new, and it did not in itself inspire trust in the coins' purity or weight. And although the use of small coins may have made coinage an important part of daily life in Greece and Anatolia, it took hundreds of years of rule by foreign governments that were used to dealing in coins for coinage to seep into the more established economies of the ancient Near East.

BIBLIOGRAPHY

For general surveys of barter and the use of metals and other monies, a good introduction is HERBERT HAMBURGER, "Money," in *Interpreter's Dictionary of the Bible*, edited by GEORGE BUTTRICK ET AL. (1962); brief but helpful is ERICH EBELING, "Geld," in *Reallexikon der Assyriologie*, vol. 3 (1969); see also MARVIN POWELL, "Identification and Interpretation of Long-term Price Fluctuations in Babylonia: More on the History of Money in Mesopotamia," *Altorientalische Forschungen* 17 (1990). For Egypt, JACOBUS J. JANSSEN, "Prolegomena to the Study of Egypt's Economic History During the New Kingdom," *Studien zur altägyptischen Kultur* 3 (1975), is a magisterial tour of the period for which we have the most information. For several kinds of exchange, including barter in Mesopotamia, JOHANNES RENGGER, "Patterns of Non-Institutional Trade and Non-Commercial Exchange

in Ancient Mesopotamia at the Beginning of the Second Millennium B.C.," in *Circulation of Goods in Non-Palatial Context in the Ancient Near East*, edited by ALFONSO ARCHI (1984), presents a sensitive reading of Old Babylonian letters. The other studies in that volume are valuable reports on the limited information on nonroyal exchange; unfortunately the volume omits the Ur III period.

On moneylike objects the most penetrating study is MARVIN POWELL, JR., "A Contribution to the History of Money in Mesopotamia Prior to the Invention of Coinage," in *Festschrift Lubor Matouš*, vol. 2, edited by BLAHOŠLAV HRUŠKU and G. KOMORÓCZY (1981), on silver rings and coils. Interesting proposals for moneylike objects were made by SIDNEY SMITH, "A Pre-Greek Coinage in the Near East," *Numismatic Chronicle* 2 (1922); MIRIAM BALMUTH, "The Monetary Forerunners of Coinage in Phoenicia and Palestine," in *The Patterns of Monetary Development in Phoenicia and Palestine in Antiquity*, edited by ARIE KINDLER (1967); CARLO ZACCAGNINI, "Materiali per una discussione sulla 'Moneta primitiva': Le coppe d'oro e d'argento nel Vicino Oriente durante il II millennio," *Istituto Italiano di Numismatica* 26 (1979); and EDWARD LIPIŃSKI, "Les Temples néo-assyriens et les origines du monnayage," in *State and Temple Economy in the Ancient Near East*, edited by E. LIPIŃSKI, vol. 2 (1979). The latter is criticized by NICOLA PARISE, "Fra Assiri e Greci: Dall'argento di Ishtar alla moneta," *Dialoghi di Archeologia* 5, no. 2 (1989).

For metallic exchange and other money systems, the basic study is still RONALD SWEET, "On Prices, Moneys, and Money Use in the Old Babylonian Period" (Ph.D. diss., University of Chicago, 1959). WILHELM EILERS, "Akkad. *kaspum* 'Silber, Geld' und Sinnverwandtes," *Die Welt des Orients* 2 (1957), explains the ways silver was broken and weighed. More-recent helpful studies include DIETZ OTTO EDZARD, "Die Beziehungen Babylonien und Ägyptens in der mittelbabylonischen Zeit und das Gold," *Journal of the Economic and Social History of the Orient* 3, no. 1 (1960), discussing the problem of gold as money, its appearance, and its disappearance; FRANCIS JOANNÈS, "La Culture matérielle à Mari (iv): Les méthodes de pesée," *Revue d'assyriologie* 83 (1989); DANIEL C. SNELL, *Ledgers and Prices: Early Mesopotamian Merchant Accounts* (1982); ROBERT STIEGLITZ, "Commodity Prices at Ugarit," *Journal of the American Oriental Society* 99 (1979); MAURICE LAMBERT, "L'Usage de l'argent-métal à Lagash sous la III^e dynastie d'Ur," *Revue d'assyriologie* 57 (1963), especially on grain and silver as moneys; and HENRI LIMET, "Les Métaux à l'époque d'Agade," *Journal of the Economic and Social History of the Orient* 15 (1972).

MARTA GIACCHERO "L'intuizione dei fenomeni e dei

Methods of Exchange and Coinage

comportamenti economici nelle storie di Erodoto," in *Studi di storia antica in memoria di Luca de Regibus* (1969), is the most detailed discussion of Herodotus's economic observations.

In addition to the studies mentioned above, interest-

ing additions to the discussion of coinage are WALTER BRUNO HENNING, "The 'Coin' with Cuneiform Inscription," *Numismatic Chronicle* 16 (1956); and B. KANAEL, "Ancient Jewish Coins and Their Historical Importance," *Biblical Archaeologist* 26 (1963).

SEE ALSO **Croesus of Sardis and the Lydian Kingdom of Anatolia** (Part 5, Vol. II) and **Private Commerce and Banking in Achaemenid Babylon** (Part 6, Vol. III).

7

Technology and Artistic Production

Mining and Metalwork in Ancient Western Asia

JAMES D. MUHLY

RECENT ARCHAEOLOGICAL WORK has pushed back the first use of metal to some time before 7000 BCE, at least four thousand years before the traditional date for the beginning of the Bronze Age. This essay will present a broad survey of some six thousand years of the use of metals in the ancient Near East and the eastern Mediterranean, down to the introduction of iron and the beginning of a true Iron Age (circa 1000 BCE). The goal will be to combine archaeological, analytical, and textual evidence in order to present a synthesis of the development of metallurgical technology and of the role of metallurgy in the economic and political life of the various peoples making up the cultures of the ancient Near East.

COPPER MINING AND EARLY COPPER METALLURGY

Early Mining

Very little is known about early mining in the ancient Near East. Iraq, Syria, Lebanon, Israel, Jordan, and Egypt have always been considered as being in a mineral-poor part of the world and, with some notable exceptions, no systematic surveys of possible ancient mining and smelting sites have been carried out. Studies have been

conducted in Anatolia, where a systematic survey of early mining and smelting sites was carried out by scholars from the Max Planck Institute for Nuclear Physics, Heidelberg, Germany; Israel, where a long-range research project has investigated the history of mining and smelting in the vicinity of Mount Timnah (southern Negev), from at least the Late Bronze Age (if not earlier) down to Islamic times; and Jordan, where a team of scientists from the German Mining Museum in Bochum, Germany, has studied the development of mining and smelting technology at Feinan, in the Wadi Araba, from the Chalcolithic to the Iron Age. In greater Mesopotamia the most important work has been done in Oman, where another group of scholars from the German Mining Museum has investigated copper-smelting sites dating back to the Early-Middle Bronze Age and Islamic times. American and Italian expeditions have also operated in the area. No systematic survey of early mining and smelting sites in Iran has been carried out, although French scholars did some preliminary work in the 1970s (in Iran, Oman, and Afghanistan) and the Iranian Geological Survey carried out a detailed survey of all known copper deposits in Iran. It is assumed that the great copper mines at Talmessi (district of Anarak) were being exploited in Neolithic times, but no detailed investigation of that mining area has been undertaken. Anatolia has the most extensive and most

important mineral deposits of any region in the ancient Near East. The copper deposits of Iran and Cyprus are also of more than local significance.

Cyprus's copper mines have long made this island famous as one of the major sources of copper in the ancient world. Although the Geological Survey of Cyprus has carried out a detailed investigation of all the known copper deposits on the island (and modern prospecting techniques have failed to turn up a single deposit not exploited in ancient times), no systematic archaeological investigation of the island's mining and smelting areas has been carried out. Slag samples have been collected for geochemical investigations, in order to study the smelting technologies being used, but most of these samples come from slag heaps and therefore have no real archaeological context.

One of the few copper mines in Anatolia known to have been exploited in ancient times is that at Kozlu, accidentally discovered in an area where no later mining activity had been carried out. It has long been assumed that at famous mining sites such as Ergani Maden in Turkey, Skouriotissa in Cyprus, or Talmessi in Iran, later mining activity, extending into modern times, had obliterated all traces of Bronze Age or ancient mining operations. Recent work in the British Isles has shown that this is not necessarily the case. Careful archaeological work at famous mining sites in Ireland (Mount Gabriel, County Cork) and Wales (Great Orme and Cwmystwyth) was able to document significant early mining activity. The same could undoubtedly be done at the great mining sites in Anatolia, Cyprus, and Iran.

The metals known and used in the ancient Near East were copper, tin (and bronze, an artificial alloy of copper and tin), gold, silver (and electrum, a natural alloy of gold and silver), lead, and iron (along with steel, an artificial alloy of iron and carbon). Metals such as arsenic and zinc (with one possible exception in the latter case) were never used in their metallic state but only as materials alloyed with copper to produce arsenical copper and brass, respectively. Brass was produced only accidentally prior to Roman times. Mercury, used in a gilding process no earlier than Hellenistic times, was not recognized as a metal in ancient times and need not be included in this survey.

Of these metals only copper and lead (along with argentiferous—silver-bearing—lead ores) were mined prior to about 1000 BCE. They are the only ones for which traces of significant mining operations are likely to be discovered. Tin and gold present special problems. Panning for alluvial cassiterite (mineral tin) and alluvial native gold would leave no trace in the archaeological record. Is this the only way these metals were recovered in the Bronze Age, or are we to think in terms of some hard-rock mining as well? A major research project sponsored by the Smithsonian Institution and directed by K. Aslihan Yener has proposed hard-rock mining for tin in the central Taurus Mountains (southeastern Turkey), beginning in the early third millennium BCE (see the box at the end of this chapter). These claims have generated considerable discussion. Some sort of mining activity certainly was being carried out in the area, and the associated archaeological evidence does seem to go back into the Early Bronze Age, but tin need not have been the metal being sought. The entire area is a rich polymetallic zone, with deposits of lead, silver, iron, and even gold, but historically has never been identified as a source of tin.

Lead and Silver

The best evidence for the existence of a smelting technology comes with the use of lead, not copper. Native lead is extremely rare, so it is most likely that any ancient lead artifact was made of lead smelted from various lead ores, including galena (lead sulfide), the most common lead ore and one that occasionally contained silver. This silver was extracted from the lead by a process known as cupellation. It is commonly argued that all metallic lead found in Bronze Age or earlier contexts was produced as the inevitable by-product of the recovery of silver. This cannot be correct, for many early lead artifacts contain too much trace-element silver for their lead ever to have been desilvered. The earliest known lead artifacts also come from a time that must predate the first use of the cupellation process. It has to be accepted that, in the Bronze Age and earlier, lead ores were being smelted in order to obtain metallic lead.

Some of the beads from a necklace buried with a young woman in Level VIA at Çatal (pronounced Chatal) Hüyük in Turkey (circa 6000 BCE) have long been cited as the earliest known

objects of lead, but analysis has identified these beads as being of galena, another example of the confusion between mineral and metal. The bracelet from level XII (the lowest level) at Yarim Tepe I is, however, definitely of metallic lead, as is a small bead from Jarmo in Iraq, both probably dating to the late seventh millennium. The process of extracting silver by cupellation is, on the basis of present evidence, first attested at the site of Habuba al-Kabira, northern Syria, in a Late Uruk context (circa 3500 BCE).

Copper

It is thought that the history of copper mining goes back into the fifth millennium BCE, even the early centuries of that millennium, based upon discoveries made at Rudna Glava, in what is now Serbia, and at Aibunar, in Bulgaria. While the mines themselves are certainly that old, it cannot be demonstrated that they were being exploited as potential sources of metal. The carbonate minerals of copper, malachite and azurite, have long been used as semiprecious stones and as pigments (for green and blue, respectively), and it is quite possible that both mines were first worked as sources of semiprecious stones, not metallic copper. No one has yet been able to identify any early copper artifact as made of copper smelted from the ores found at Rudna Glava or Aibunar.

It is always important to distinguish between mineral and metal. The carving of malachite as a semiprecious stone has nothing to do with copper metallurgy. Nor does the use of hematite (iron oxide) in Chalcolithic maceheads and Old Babylonian cylinder seals have anything to do with iron metallurgy. The lozenge-shaped pendant, with holes drilled at either end, from the Shanidar Cave in Iraqi Kurdistan, dated to about 8700 BCE and often cited as the earliest known copper artifact, is probably a piece of carved and polished malachite.

Malachite was used at the aceramic Neolithic site of Çayönü (pronounced Chayonu) Tepesi, in southeastern Turkey, a complex, multiphase site that, in its aceramic phase, was occupied around 7200–6700 (on the traditional chronology; on the basis of the most recent calibration curve, the beginning of Çayönü would be put at 8500 BCE). In addition to the thousands of tiny, drilled malachite beads found at the site, the joint Turkish-American excavations have unearthed

more than one hundred copper artifacts, mainly small beads, hooks, pins, and awls or reamers. All of these objects were made of native copper that, like gold, was found in its metallic state in a geological context. Some of these artifacts had been cold-worked and then annealed, showing that pyrotechnology was part of the earliest recorded use of metal. A small copper bead from the nearby site of Nevala Cori (pronounced Jori), perhaps slightly earlier than the finds from Çayönü, shows that the early use of metal was not confined to a single site. This has been confirmed by the discovery of a number of copper beads, making up part of a necklace, from the aceramic Neolithic site of Aşikli (pronounced Ashikli) Hüyük.

By the mid seventh millennium, copper metallurgy, again utilizing native copper, had spread to northern Mesopotamia, first at the site of Tell Maghzaliyeh and then at a series of sites in the Sinjar Valley, especially Yarim Tepe and Tell Sotto, dating to the pre-Hassuna and Hassuna phases of Mesopotamian prehistory. Small objects of native copper are also known from roughly contemporary contexts in Syria (Tell Ramad) and Iran (Ali Kosh). The earliest massive copper artifact from the ancient Near East is probably the copper macehead from level 2B at Can Hasan, in southern Anatolia, dating to about 5000 BCE.

The Can Hasan macehead is made of a very pure (surely native) copper, having only 0.05 percent silver as a trace-element impurity. Purity is not an infallible indication of the use of native copper, however, as some native copper contains significant trace-element impurities, including iron and arsenic. This makes the transition to a more industrial phase of copper metallurgy, involving the smelting of simple (oxide and carbonate) ores of copper, very difficult to date. Level VIA at Çatal Hüyük, in southern Anatolia, produced what has been identified as a copper-smelting slag, dated to about 6000 BCE. From about 5000 BCE the site of Tall-i-Iblis, in southern Iran, has produced an array of small bowl furnaces and crucibles that have been associated with copper smelting.

Copper Workshops

The best example of a pre-Bronze Age copper workshop is probably that from period II9 at Tepe Ghabristan (just west of Tehran), dating to

about 4500 BCE. Excavations there yielded crucibles, molds, a *tuyère*, some sort of furnace, and a deep bowl with more than twenty kilograms (about forty-five pounds) of copper ore in nut-sized pieces. A copper workshop from late-Ubaid levels at Değirmentepe, on the upper Euphrates and dating to about 4000, is known only from brief preliminary reports, as is the copper workshop from Chalcolithic Norşuntepe in the Keban area of southeastern Turkey.

What makes the material from Tepe Ghabristan of special interest is that the copper workshops there seem to have been situated in what can be called an industrial area of the site. This section of what seems to have been the main street of the settlement had two copper workshops on its south side and three pottery workshops on the north side.

Metalworking certainly was being carried out at the Chalcolithic site of Shiqmim, in the Negev (mid fourth millennium), to judge from the array of crucibles, slags, and copper ores excavated there. Whether copper smelting was being carried out at the nearby site of Abu Matar is still under discussion, but that seems the most logical conclusion, based upon the presence of a slagged-bowl furnace, nodules of copper ore, and fayalite-copper-smelting slag.

Both sites belong to the Ghassulian-Beer-sheba Chalcolithic culture of southern Palestine. The metalwork produced by that culture is best known from the famous hoard of more than 400 metal artifacts found wrapped up in a piece of reed matting in one of the side chambers of a cave at Naḥal Mishmar, on the west bank of the Dead Sea. There has been much discussion regarding the date of this hoard of remarkably sophisticated artifacts, cast by the lost-wax (*cire perdue*) process, but parallel finds from excavated Chalcolithic sites have confirmed a date at least as early as the mid fourth millennium, if not a few centuries earlier.

In technological terms the extraordinary quality and skill of the casting techniques employed in the manufacture of the Naḥal Mishmar objects, with each piece cast in its entirety in a single operation, draw admiration even today. What made such castings possible was the use of an arsenical copper alloy. The presence of the arsenic made the copper less viscous, and hence easier to cast in intricate molds. The arsenic

must have been an impurity in the ore itself, not added separately to make an intentional alloy. If this is the case, then arsenical copper must have been made by smelting copper ores, so that a copper-smelting technology was well under way, at least in southern Palestine, by about 3500 (but see below for another hypothesis).

It is reasonable to assume—and there is now analytical evidence to support such an assumption—that the copper for this industry came from the Wadi Araba, either from Timna (Israel) or, more likely, from the much larger deposits in the vicinity of Feinan (Jordan). And one of the features of both deposits is the absence of native copper, again supporting the existence of a smelting technology. The problem is that the Araba copper ores do not contain arsenic. The simple, utilitarian, unalloyed copper artifacts from Abu Matar, Naḥal Mishmar, and Shiqmim were made of local Araba copper. The origin of the metal used in making the prestige or ceremonial lost-wax castings of arsenical copper remains an enigma.

This technological precocity in fourth-millennium Palestine is quite surprising. Also surprising is the late development of metal technology in Mesopotamia. P. R. S. Moorey has observed that “crucibles, molds, and pot bellows have not been recognized in Mesopotamian excavations before the late third millennium B.C.” In Iran the site of Susa (modern Shush) has yielded a wealth of metal finds, including a collection of fifty-five large and small flat axes, chisels, pins, and flat mirrors, made of copper or arsenical copper and dating to about 4000 (terminal Ubaid, 4500 on the basis of the new calibrated radiocarbon chronology). The metal sculpture from Early Dynastic Mesopotamia, by way of contrast, is made of unalloyed copper and is technologically quite unsophisticated. Even the large-scale human statuary of the Akkadian period, including the well-known head from Nineveh (Tell Kuyunjik, Nebi Yunus)—of Sargon or Naram-Sin, but found in a Neo-Assyrian context—and the male nude statue from Bassetki bearing an inscription of Naram-Sin, are of unalloyed copper.

The technique of lost-wax casting certainly was known in Mesopotamia; it was used for the small animals that sit atop some stone cylinder seals of the late Uruk period. There is also some

evidence to indicate that by the late fourth millennium BCE, Mesopotamian metalworkers were experimenting with different alloys. A small lion figurine from Uruk (modern Warka), of the late Uruk or Jamdat Nasr period, was found to contain 9 percent lead; and an unusual type of arrowhead from the Riemchen Building at Uruk contained more than 25 percent silver.

Various workshops for copper (and bronze) metallurgy have been identified in Mesopotamia, but nothing very convincing before the early second millennium BCE. From that period, workshops were spread over a wide area including the *kārum* Kanesh (modern Kültepe), level Ib (southern Anatolia), Tell Sweyhat (Syria), and Tell edh-Dhiba'i (suburb of Baghdad). Tell edh-Dhiba'i produced an impressive array of crucibles, molds, *tuyères*, and pot bellows. From his study of this and related assemblages, Christopher Davey has tried to distinguish what he considers to be two separate traditions of metalworking in the ancient Near East: (1) the northern tradition, dominant in Iran, the coastal Levant, Anatolia, and eventually the Mediterranean; (2) the southern tradition, found in the region of the Gulf (Oman and eastern Saudi Arabia), Mesopotamia, Egypt, and inland Syro-Palestine.

The southern tradition is distinguished by a special type of crucible (known especially from Egypt and Tell edh-Dhiba'i) and by the use of open rather than closed (or bivalve) molds. The use of open molds, Davey argues, developed out of an earlier practice of casting in the sand. Such a technique is certainly known from Mesopotamia and is mentioned in the Hebrew Bible (1 Kings 7:46).

The sources of copper being exploited by the metal industries of Mesopotamia and related countries have been much discussed in recent years. The native copper, in use down to about 4000, could have come from any one of a number of deposits in a belt of mineralization extending across southeastern Anatolia into northern Iraq. There are also rich native copper deposits in Iran, especially at the Talmessi mine, but not, as we have seen, in the copper sources from the Wadi Araba.

The current hypothesis is that in the fourth millennium, Mesopotamian copper, as well as that used at Susa, came from the Talmessi mine.

This could, conceivably, all still have been native copper, for which the Talmessi mine is justly famous. As late as 1936, native copper was being mined here at the rate of 300 kilograms (660 pounds) per cubic meter, at a depth of 80 meters (262 feet). Moreover, Talmessi native copper is known to have a high arsenic content and could, therefore, have supplied the arsenical copper characteristic of Mesopotamian and Iranian metallurgy before about 2500 BCE (as well as the metal for the prestige artifacts of Chalcolithic Palestine).

In the early third millennium the Sumerians, for no obvious reason, are thought to have switched to copper from Oman, an area known to them as the land of Magan (as it was to the Greek geographer Ptolemy [second century CE], who knew the region of the Persian Gulf as the *Magōn kolpos*). Iranian metallurgy continued to develop during the course of the third millennium, but it is possible that the development of Gulf trade, resulting in the establishment of contact with the Harappan civilization of the Indus Valley, prompted a Mesopotamian shift from Iran to more convenient (perhaps more accessible) sources of copper in Oman. It is also possible that an Iranian (or Elamite) shift in focus to the Central Asian lands of Bactria and Margiana cut off Mesopotamian access to the copper deposits of Iran, forcing the Sumerians to seek new sources of copper.

The copper deposits of Oman are quite extensive and are now well documented thanks to publications resulting from the American, Italian, and German expeditions that have worked in the country since the 1970s. There seem to have been two main periods of copper-smelting activity in Oman, the first from about 2500 to 1700 BCE, centered at Maysar, and the second during the Islamic period, centered at Lasail. There seems to have been much reworking of the Bronze Age slags during Islamic times. The cyclic nature of copper-smelting activity in Oman may be a pattern imposed upon the industry by the deforestation resulting from the demand for fuel to fire the smelting furnaces, necessitating long intervals for forest regrowth. A similar pattern can be documented for Cyprus, especially in the first millennium CE.

It was proposed at the very beginning of the study of Sumerian metallurgy, in the 1920s, that

Magan copper (from Oman) could be identified by its high concentrations of trace-element nickel. While this is not a reliable way to study provenance—nickel being a common trace element in copper ores—it is interesting that analytical work on copper-bun ingots from Maysar 1 (house 4) has confirmed the high nickel content of Omani copper ores.

The Bronze Age exploitation of the Omani copper deposits seems to have coincided with what are most likely two related phenomena: (1) references in Mesopotamian texts to copper from Magan and to obtaining that copper either directly from Magan or through the intermediate agency of Dilmun (the island of Bahrain)—the copper did not come *from* Dilmun but *through* Dilmun; and (2) the period of the Mature Harappan phase of the Indus Valley civilization.

This second correlation suggests that contact and trade with Mesopotamia were factors contributing to the development and growth of the Indus Valley civilization, established in an area known to the Sumerians as the land of Melukha. So close was the relationship that the traders of Dilmun used the same system of weights and measures as that found in the Indus Valley. From the figures given in Sumerian texts it would appear that the Dilmun shekel was about three times heavier than the standard Sumerian one. It has been thought by some scholars that transactions at Ebla (modern Tell Mardikh) were also conducted on the basis of the Dilmun shekel, but this reading of the sign in question in the Ebla texts cannot be substantiated, and all theories regarding references to Dilmun at Ebla remain conjectural.

The amount of copper involved in this trade was quite considerable. One text from Ur (*UET* 5 796), dated to the reign of Rim-Sin of Larsa (1822–1763 BCE), records the receipt in Dilmun of 611 talents, $6\frac{2}{3}$ minas of copper (presumably from Magan). This shipment, according to the text, was weighed according to the standard of Ur, giving a modern equivalent of 18,333 kilograms (40,330 pounds) of copper. One-third of this copper was earmarked for delivery to Ea-nāšir of Ur, a merchant who had close connections with Magan and the Dilmun copper trade. He seems to have been a shifty character, often trying to pass off substandard merchandise on his unsuspecting customers, one of whom found

out and wrote to him: “I will not accept here any copper from you that is not of fine quality . . . and I shall exercise against you my right of rejection because you have treated me with contempt” (*UET* 5 81, after Oppenheim, no. 12). Sir Leonard Woolley, the excavator of Ur, believed that he had identified the house of Ea-nāšir at what he called No. 1 Old Street. Ea-nāšir’s shady deals may have been his undoing, for Woolley thought the archaeological evidence indicated that Ea-nāšir fell upon hard times and was forced to sell part of his house to a neighbor.

This contact between Mesopotamia and the Indus Valley, the land of Melukha, was clearly by sea and must have brought products across the Arabian Sea and into the Persian Gulf. These products included the copper of Magan. Did they also include the tin of Afghanistan and central Asia, perhaps the tin designated by Gudea, king of Lagash (now known to be a contemporary of Ur-Nammu, king of Ur, circa 2100 BCE), as the tin of Melukha?

TIN AND THE DEVELOPMENT OF BRONZE METALLURGY

Early Use of Bronze

The most important metallurgical development during the Early Bronze Age was the discovery that adding tin to copper produced a far superior metal, eventually known as bronze. In its classic form, bronze has 10 percent tin and 90 percent copper. The addition of even 2 percent tin has noticeable effects upon the hardness and working properties of copper, but anything over 16 percent tin is undesirable, for a very high tin content makes copper brittle and difficult to work. Objects such as the ax head from the A cemetery at Kish (modern Tell al-Uhaimir; Early Dynastic, or ED, IIIB), with 15.5 percent tin, are probably to be assessed as being of early, experimental alloys.

The historical development of bronze metallurgy has been difficult to document, and locating ancient sources of tin has proved to be an even more intractable problem. Objects presented as evidence for early, even the earliest, bronze metallurgy have often proved to be of

uncertain context and/or date. It would seem at present that there are no objects of bronze reliably dated prior to 3000. Pieces with small quantities of tin reported from earlier contexts are, at best, accidental products of a smelting operation that somehow involved traces of cassiterite. They should not be seen as evidence for an incipient bronze metallurgy.

Although there will probably always be doubt regarding the date of the cache of human figurines from Tell Judeidah (northern Syria), the excavators' date of about 3000 (transition Amuq G–H) still seems the most probable. Since analysis shows the figurines to be made of classic bronze, with about 10 percent tin, the Judeidah figurines are not only remarkable lost-wax castings but also some of the earliest known examples of bronze. Nor are they isolated examples, for other objects are known from Amuq G and H contexts.

Nor is such early bronze known only from the Amuq plain. A pin from Tepe Gawra VIII (early third millennium) said to have 5.6 percent tin unfortunately can no longer be located, but four artifacts from the Y cemetery at Kish, of ED I date, proved to have more than 2 percent tin. These are the earliest examples of bronze from Mesopotamia. One of these objects, a spouted jar, has 6.24 percent tin.

The only other part of the ancient world with a significant bronze industry dating prior to about 2200 BCE is located in the northwestern corner of Anatolia, a vast distance from southern Mesopotamia. From Troy II, and from roughly contemporary levels at Poliochni (island of Lemnos) and Thermi (island of Lesbos), come a significant number of bronze artifacts dated in the third quarter of the third millennium BCE. Isolated earlier examples are also known, especially from Beşiktepe (pronounced Beshiktepe) in the Troad, but the real use of bronze comes only in the period represented by Troy II and Poliochni V (or yellow, in the system of color designations employed by the Italian excavators of this site). This use of bronze coincides with the appearance of new sources of metal—of tin and of copper—not hitherto present in Anatolia and coming from ore deposits of geological date far older than anything known from Europe, the eastern Mediterranean, or the Middle East.

The use of bronze is also well documented on

the central Anatolian Plateau, at sites such as Alaca (pronounced Alaja) Hüyük, and Mahmatlar, presumably contemporary with Troy II. We know little about the sources of copper and tin used on the central plateau, however, for very few lead isotope analyses have yet been carried out on this material (for the significance of lead isotope work see below).

Sources of Tin and the Tin Trade

The appearance of tin, an exotic new metal in the Troad, must have something to do with the sources being exploited by the bronze industries of the third millennium BCE. A source of tin in the Troad remains a very attractive possibility, especially because of the very early use of tin in the area, but no trace of such a deposit has yet been documented from the Troad or from anywhere else in Anatolia. There has been much recent discussion regarding an Early Bronze Age source of tin in the Taurus Mountains. Such a source deserves serious consideration, but its proponents have yet to document anything other than the geological presence of tin in the region; that is, they have shown a tin mineralization that is of some geological interest but is in a form (and concentration) that would have made it impossible to exploit or even to be identified by Bronze Age prospectors. The Taurus team, led by K. Aslıhan Yener, has come up with evidence for the existence of elaborate mining operations at the site of Kestel, with underground shafts and galleries, in association with ceramics from the Anatolian Early Bronze Age. At the nearby site of Göltepe ore-processing operations have been uncovered, involving the use of crucibles and literally tens of thousands of crushing and/or grinding stones. The crucibles have inclusions that contain minute traces of cassiterite. What remains to be established is whether all this activity had anything to do with the recovery of metallic tin. Yener and her colleagues have yet to come up with any (surviving) ore deposits that contain more than 1.5 percent tin.

Another reason for being skeptical about Anatolian tin sources is that in the Old Assyrian period (early second millennium BCE) there is abundant textual evidence documenting a trade that brought tin (and textiles) into Anatolia, there to be exchanged for silver (and gold). The tin

was brought to Asshur from some point further east, most likely Afghanistan. The Assyrian merchants purchased the tin for reshipment, by donkey caravan, and sale (at a 100 percent markup) in Anatolia. Most of the Old Assyrian texts remain to be published, and most of the some three thousand texts that have been published do not deal with the tin trade; the texts that do, about two hundred in number, record the shipment of some eleven tons of tin into Anatolia. It is possible, as Yener has suggested, that the Assyrian merchants were dealing with a perhaps superior imported tin.

The Old Assyrian tin trade was on a large scale and enriched three generations of Old Assyrian merchant families. If tin was being produced in Anatolia during the Early Bronze Age, then what happened to that tin in the early Middle Bronze Age? Or are we dealing with two different qualities of tin, one local and one imported? Did such conditions prevail only during the Old Assyrian period or, since trade relations between northern Mesopotamia, northern Syria, and Anatolia were well under way by the middle of the Early Bronze Age, was a similar trade in tin being carried out long before it was documented in the letters of the Old Assyrian merchants? Many questions remain to be answered.

Early Bronze Age trade, as will be described below, dealt in such luxury items as tin, gold, and lapis lazuli. Tin and gold were being used in third-millennium Anatolia, but not lapis lazuli, except for the always-exceptional site of Troy. All three materials certainly reached Early Bronze Age Ebla, where unworked blocks of lapis lazuli were found in the storerooms of Palace G; but for some reason the stone never caught the fancy of the contemporary inhabitants of Anatolia (yet later Hittite texts contain many references to lapis lazuli). The metal artifacts from Early Bronze Age Ebla have yet to be analyzed, but tin and the production of bronze are mentioned in the texts from the Palace G archive.

Tin exists in nature in the form of cassiterite, an oxide of tin. The cassiterite most likely utilized by Bronze Age metalworkers was alluvial or placer cassiterite, popularly known as tin-stone and present as nuggets or pebbles in the beds of streams. Such pebbles of cassiterite have been found at excavated sites, especially in Late

Bronze Age Cornwall. Alluvial cassiterite was collected by panning the bed of a stream, much like the recovery of alluvial gold (the main difference being that the gold was collected as a native metal, not an oxide). Pans thought to have been used for this purpose have been found at Early Bronze Age Troy and in Grave 20 at Asshur.

Both cassiterite and alluvial gold were originally deposited as inclusions in quartz veins running through the host granite rock. Both were washed out of the lode source through the action of water and eventually abraded to nugget or pebble form. Gold and tin often occur within the same general area as, for example, in the Eastern (Arabian) Desert of Egypt. Ancient Sardis, the region of the Tmolus (modern Boz Dağ) mountain range and the Pactolus River, was famous as an ancient source of alluvial gold, the source of wealth for Croesus, king of Lydia, but no placer cassiterite has been documented from Anatolia.

Not all granite massifs contain significant traces of cassiterite or gold, but the chances of finding either metal apart from granite are very slim. The similarity in geological history suggests a possible historical connection between tin and gold, with the two metals first being used at about the same time. This seems to be exactly what happened (except for the extensive use of gold in a few of the burials from the site of Varna, on the Black Sea coast of Bulgaria, dating to the second half of the fifth millennium, and the presence of eight massive, circular objects of gold and electrum in a Chalcolithic cave deposit of the fourth millennium at Naḥal Qanah in Israel).

Bronze tools, implements, and weapons and gold jewelry appear together in the Royal Cemetery of Ur, the royal shaft graves of Alaca Hüyük, and the various treasures (really hoards) of Troy II, the most famous being the so-called Treasure of Priam (also known as the Great Treasure or Treasure A). At each of these sites there was virtually no prior use of either metal. The same is true for the bronze metallurgy and gold jewelry of Poliochni V (yellow). All this begins in the twenty-sixth century BCE, the date of the Royal Cemetery, and continues over the next few centuries down to about 2200 BCE. As indicated above, the possibility of tin, gold, and lapis lazuli coming into Mesopotamia from Afghani-

stan is certainly an attractive one. Of these three raw materials, however, we can be sure of the provenance of only one. Most, if not all, of the lapis lazuli used by the Sumerians came from northeast Afghanistan, from the Sar-i Sang mines in the region of Badakhshan. Other sources have been reported, especially one in southern Pakistan, but it remains unanswered whether they supplied any significant quantity of this royal-blue, crystalline material so highly prized by the inhabitants of Mesopotamia, especially the Sumerians. As for tin and gold, it can only be said that both metals are present in significant quantities in Afghanistan and in alluvial form. The recovery of fine gold particles from streams, making use of the woolly fleece of sheep (the famous Golden Fleece of Greek legend), was still practiced in Afghanistan well into the twentieth century. (See "Troy: Legend and Reality" in Part 5, Vol. II.)

Mari and the Tin Trade

An eastern source for tin, perhaps as far east as Afghanistan and Central Asia, is certainly supported by the many references to tin in the Old Assyrian texts as well as in the texts from Mari (Tell Hariri), dating mainly to the first half of the eighteenth century BCE. Whatever the ultimate source of this tin might have been, it came to Mari through Elam, from Susa and Anshan (now identified with the Central Iranian site of Tepe Malyan), and Elamites played a major role in the trade, especially a man named Kuyaya. Certain merchants from Mari were also heavily involved in the tin trade with Elam, among them a merchant named Ishkhi-Dagan (the two appear together in ARM 23 555).

The tin came to Mari in the form of ingots (Akkadian *lē'u*) that weighed about ten pounds each. It is possible to obtain some idea of the relative value of this tin, for a number of the Mari texts provide a tin:silver ratio of 10:1 (the most common ratio; a few texts give ratios from 8:1 to 15:1). This is to be compared with isolated references to a tin:gold ratio (48:1), a confusing silver:gold ratio of 4:1 as well as 2:1, and a lead:silver ratio (1200:1). The usual copper:silver ratio at Mari was 180:1 for unrefined "mountain" copper, with refined (literally "washed") copper being valued at 150:1. This means that tin was usually from fifteen to eigh-

teen times more valuable than copper. The price of tin seems to have varied depending upon whether Mari was at peace or at war with Elam, another indication that the tin being used at Mari did indeed come through Elam.

There are many metal ratios in Mesopotamian texts from all periods. What makes the Mari material so significant is that it all comes from a discrete time and place, covering a period of no more than a generation. In later texts from Nuzi (fifteenth century BCE) goods were priced in amounts of tin. An ox cost thirty-six minas of tin; an ass, twenty-four minas. During the Middle Assyrian period tin seems to have functioned as the monetary standard (temporarily replacing the customary silver). Plots of land were purchased with tin; even court fines were paid in tin. How this relates to the relative abundance of metallic tin in circulation remains to be determined.

The cuneiform archives contain a number of "recipe" texts, giving the amounts of copper and tin used to make specified amounts of bronze. One of the earliest such texts, from Palace G at Ebla, records that 3 minas, 20 shekels of tin were alloyed with 30 minas of copper to produce 200 objects of bronze, each weighing 10 shekels. In other words, 200 shekels of tin were mixed with 1,800 shekels of copper to produce 2,000 shekels of a 10 percent-tin bronze. In one Mari text 20 shekels of tin were added to 170 shekels of refined copper from Teima (for which see below), at the rate of 1:8, to produce 190 shekels of bronze for a key (to the lock of a city gate). The amounts specified are not quite exact (there should be only 160 shekels of copper), but such texts make sense only if metallic tin was being added to metallic copper to produce bronze.

This means that smiths at Mari were working with the metals themselves—with copper and tin—not with ores or minerals. That is, no smelting was being carried out in the vicinity of the Mari palace. Rooms 216–218 of the Zimri-Lim palace had been identified as a series of copper workshops, relying on the mention in texts of a *bīt šurīpim*. *Šurīpum* was translated as "copper ore," and one of the Mari letters (ARM 1 21) was interpreted as describing the preparation of the copper ore prior to smelting. We now know, however, that *šurīpum* means "ice" and that a *bīt šurīpim* was an "ice house" rather



After Markus Wäfler, "Zu Status und Lage von Tabāl," *Orientalia*

than "a place for treating copper ore." The ice manufactured and stored at Mari was used to chill wine (at Mari they drank their wine chilled, their beer warm).

Copper-refining operations were carried out at Mari, for the texts contain many references to the "washing" of copper. This can only refer to a refining operation, so ingot copper must then have come to Mari in a very impure state; there are references (as in ARM 24 106) to the loss of as much as one-third of the original metal in the initial refining. Such refining could also be carried out a second, even a third, time. Henri Limet, in his study of the bronze industry at Mari, estimates that, on average, 20 percent of the original metal was lost in these refining operations, a figure that seems excessive.

Refined copper was distinguished from the original raw or blister copper known as "copper of the mountain." The refining process was not always carried out at Mari. Copper from Alashiya (the island of Cyprus) is usually described as being refined copper, the implication being that the Cypriots shipped only refined copper. This is true also of the Babylonian reference to copper from Alashiya, dated to the fifth year of the reign

of King Samsu-iluna (1745 BCE). At least one Mari text also refers to refined copper from Teima, perhaps to be identified with Taima/Taymā in northwestern Arabia—famous during the reign of the Neo-Babylonian king Nabonidus—a region rich in mineral deposits, especially copper and gold. This would imply a trade between the Arabian Hejaz and the middle Euphrates in the early second millennium BCE.

At the other end of the Mari trade network, the texts record that tin stored at Mari was transhipped to various cities in the Levant, from Karkamish in the north to Hazor in the south. This we learn from a remarkable tin itinerary that concludes with the recording of "1 [+] minas of tin to the Cretan; $\frac{1}{3}$ mina of tin to the translator, chief [merch]ant among the Cretans; [dispensed] at Ugarit . . ." (ARM 23 556). This striking passage indicates that there were Minoan merchants (the text uses the name Kaptaru, generally taken to designate the island of Crete) doing business (perhaps also residing) at Ugarit (modern Ras Shamra) toward the beginning of the Old Palace period in Crete. Furthermore, these Minoan merchants seem to have had a translator (Akkadian, *targamannum*; the origin

of the common European “dragoman”) who was also the leader of the Minoans doing business at Ugarit. Such translators are known from other periods of Mesopotamian history. We have the cylinder seal of a Sargonic official who served as translator for the Melukkha merchants who came to Agade from the Indus Valley, perhaps bringing with them the tin of Melukkha, a commodity mentioned in one of the statue inscriptions of Gudea, ruler of Lagash. A Mari text, dated to the ninth year of the reign of Zimri-Lim, refers to the construction of a “small Kaptaru boat,” perhaps to be taken as a model ship for ritual purposes or as the designation of a ship built for sailing to Crete. A possible parallel for this would be the Egyptian references to Byblos ships (for sailing to, the ancient Syrian port of Byblos [modern Jubayl]) and Keftiu ships (built for sailing to Crete).

What is surprising about the Mari tin itinerary is the small amounts of tin given to the Cretans. The chief merchant received only twenty shekels of tin, compared with the thirty minas of tin given to Ibni-Adad, king of Hazor. In other words, the head of the Cretan merchants at Ugarit received one-ninetieth the quantity of tin given to the ruler of Hazor. Such a quantity of tin can hardly have supported the bronze industry of Middle Minoan Crete. What purpose did it serve? Clearly this does not represent actual commercial trade. We know that Zimri-Lim and one of his many wives traveled from Mari to Ugarit, dispensing presents along the way. The tin given to the Cretan representative must be seen as a personal gift, not as a quantity of metal meant to support the Minoan bronze industry.

Bronze certainly was being produced in Middle Minoan Crete, with production undergoing a great expansion during the Late Bronze Age, as it did on the Greek mainland. It is most unlikely that the tin for these extensive bronze industries came all the way from Afghanistan or central Asia. Sources in central Europe (Erzgebirge) or in southern England (Cornwall) have been suggested. In fact there are known tin deposits scattered across the western Mediterranean and western Europe: in northwestern Italy, Sardinia, Portugal, and Brittany. The problem is that, at present, no satisfactory analytical method for studying the provenance of tin has been discovered.

LEAD-ISOTOPE ANALYSIS AND THE BRONZE AGE METALS TRADE

Elemental Analysis of Copper and Bronze Artifacts

Most archaeologists and ancient historians have only a limited interest in science and technology. But they are interested in questions of provenance and trade, of where things came from and where they went. As the study of archaeometallurgy began to develop as a separate academic discipline, in the 1920s and 1930s, it is not surprising to find that the interest in what metal analysis had to offer centered mainly on questions concerning provenance and trade. The goals of most analytical work on ancient metal artifacts has been to establish the source of the metal(s) employed in making an artifact.

The Sumerian Copper Committee, set up by the British Association for the Advancement of Science, stated in its first report, published in 1929, that “the work of the committee has been to determine the source of the copper used by the Sumerians. The most promising method of obtaining that object was to determine the nature of the impurities usually contained in the early copper and bronze, with the possibility that some impurity might prove to be sufficiently characteristic to indicate the ore from which the copper had been obtained.” That statement remained the basis for most research in the field over the next fifty years. Elaborate analytical programs were set up, especially in Germany, where the SAM project (SAM standing for *Studien zu den Anfängen der Metallurgie*, “Studies on the Beginnings of Metallurgy”) sponsored by the German Archaeological Institute, analyzed some twenty-two thousand copper and copper-based artifacts, chiefly in European museums.

The results of all this analytical work—to determine the trace-element impurities of the metal and, on that basis, to establish groupings of objects having similar compositions—were controversial, if somewhat disappointing. We now realize that all such analytic programs, however extensive and elaborate, are compromised because each process of smelting, melting, remelting, and casting a given metal changes its chemical composition. Moreover, alloying ele-

ments, such as tin and lead, add their own impurities to a metal that may already consist of copper from several different sources.

Lead-Isotope Research and the Ancient Near East

Since the early 1980s, provenance study has made tremendous progress by using lead isotope analysis. This technique employs a mass spectrometer to measure minute differences in the amounts of the four stable isotopes present in all lead ores and has a great advantage in that the ratios among the isotopes are not affected by any physical actions carried out on the ore or the resulting metal, such as smelting, melting, or casting. Obviously the mixing of metal from several different ore sources would create serious problems, as would the addition of separate alloying elements, if those elements contained lead (as does not seem to be the case with cassiterite and tin).

Early work in lead-isotope analysis was based upon objects made of lead and of silver (derived from argentiferous lead sulfide or galena, and thus always containing at least trace-element lead). Eventually scholars realized that virtually all copper also contains enough lead (as little as 0.001 percent) to do lead-isotope analysis. In recent years, therefore, interest has shifted to the study of copper and copper-based artifacts, these being more numerous and also more interesting than most objects of lead or silver. The goal of such research has been to study the sources of copper (and of lead and silver) being exploited during the Bronze Age.

To accomplish that goal, ores as well as artifacts had to be studied, and the ratios derived from a particular artifact had to be compared with those from known ore sources. Ideally every conceivable ore source had to be sampled, with some fifty samples from each source necessary to establish a reliable isotopic "fingerprint" of that source. In reality, sampling has never extended beyond a few likely sources, and most fields or fingerprints are established on far fewer than fifty samples.

The realities thus imposed upon research goals have created inevitable ambiguities surrounding all lead-isotope work to date. The lack of isotopic match between ore and artifact does rule out any possible correlation and a definite

statement can be made: the metal in that artifact did not come from the ore deposit in question. If there is, however, a satisfactory match between ore and artifact, then the only valid conclusion is that there *might* be a correlation, but the lack of a complete database prevents any more positive conclusion. Individual ore deposits do not have unique isotopic fingerprints, so the possibility of an untested ore deposit having as close a match (or even a closer one) always has to be taken into account. While all scholars in the field agree with these strictures in principle, they are often overlooked when formulating conclusions in publications.

To take a real look at lead-isotope research, it is necessary to turn to Crete, Cyprus, and the Bronze Age eastern Mediterranean. Very little work has been done on material from the ancient Near East. What has been published must be used with great caution, for unsubstantiated claims have been made for very far-reaching trade contacts on the basis of lead-isotope analyses: four lead cups from the Early Dynastic cemetery at Ur are said to be made of lead from what used to be Czechoslovakia; a large lead ingot from Asshur, weighing some thirty kilograms (sixty-six pounds) and stamped with the name of king Tukulti-Ninurta I (1244–1208 BCE), is said to be of lead from Laurion in southern Attica; a bronze spearhead from Beth She'an (Israel), bearing the cartouche of Amenhotep III (1391–1353 BCE), is said to be made of copper from Sardinia. These are conclusions totally at variance with present-day understanding of Bronze Age history and archaeology.

The lead-isotope work being done as part of the Central Taurus project, directed by K. A. Yener of the Oriental Institute, the University of Chicago, is much more promising. Lead from Tarsus and copper artifacts from Tell Judeidah, in northern Syria, seem to come from Taurus group ores, as one would expect. Silver from various pieces of jewelry found in Heinrich Schliemann's Troy II treasures, some of it fused by the great fire that destroyed the Troy II citadel (at the end of EB IIIA), also appears to be made of Taurus silver, as well as from local sources in the Troad. The sixteen silver ingots found as a hoard at the site of Mahmatlar seem to be made of silver from the Taurus, according to the results from the five that have been tested.

The Central Taurus project has also done lead-isotope work on some of the Mesopotamian material housed in the Archaeological Museum of Istanbul. A fused mass of silver rings from the Gudea period at Tello (ancient Girsu) is compatible with the “fingerprint” of Taurus silver, as is a silver bracelet from Grave 20 at Asshur (circa 2000 BCE). Thus lead isotope research presents the Taurus as an important source of silver for Bronze Age Anatolia and Mesopotamia. This is true also for the work done by the Max Planck Institutes for Nuclear Physics (Heidelberg) and for Chemistry (Mainz). Their work on the copper and copper-based artifacts from Troy and Poliochni was discussed above. They also analyzed a double spiral-headed pin from Poliochni IV (red), one of the earliest silver artifacts to be analyzed to date. It, too, has a “fingerprint” that agrees with that of Taurus silver.

This is not surprising. Current fascination with the possibility of tin in the Taurus has tended to overshadow the importance of the area as a source of silver. When Sargon I of Akkad (circa 2350 BCE) spoke of dominating all lands, from the Lower Sea (Persian Gulf) to the Upper Sea (Mediterranean), as far as the Cedar Forest and the Silver Mountain, he could only have had in mind the cedars of Lebanon and the Taurus Mountains. No ancient sources refer to tin from this part of the world. Nor, for that matter, do they refer to tin from Afghanistan, although the Greek geographer Strabo (first century BCE) does refer to tin from Drangiana, Iranian Seistan (15.2.10), a reference that certainly could be seen within the context of an overland trade route through Shahr-i Sokhta and Mundigak and on to Susa. It is a pity that cassiterite has no lead, thus ruling out the possibility of using the stable isotopes of lead to study the provenance of tin. (See “Kings of Akkad: Sargon and Naram-Sin” in Part 5, Vol. II.)

Lead-Isotope Research in the Eastern Mediterranean

Lead-isotope analysis has played its most prominent role in the study of the Late Bronze Age metals trade in the eastern Mediterranean. Various research projects have examined the role of Cypriot copper in that trade and the significance of the distinctive “oxhide” shape of the copper

ingots spread across the Mediterranean world at that time, from Sardinia to central Anatolia and even into southern Mesopotamia. It was once thought that these ingots were all made of Cypriot copper, with the famous paintings in the fifteenth-century BCE tomb of the vizier Rekhmire at Thebes in Egypt regarded as depicting men of Minoan Crete (in Egyptian, Kef-tiu) carrying ingots of Cypriot copper.

This assumption agreed with the many references in the Amarna letters, and other near eastern texts, to copper from Cyprus (in Akkadian, Alashiya) and to such copper being sent as a gift to the pharaoh of Egypt. These oxhide ingots were known from fifteenth-century contexts in Crete, but on Cyprus itself there was no evidence for their use before the thirteenth century BCE.

Lead-isotope analysis has now established a distinctive “fingerprint” for Cyprus, and all the ores, slags, and ingots found in Cyprus match this fingerprint. But the ingots from Late Minoan Crete—from sites such as Haghia Triada, Knossos, Tylissos, Gournia, and Zakros—produced a number of different fingerprints, none of which agreed with that of Cyprus. In other words, we cannot say where the copper for the Cretan ingots came from—and it might have come from as many as five different sources—but it does not seem to have come from Cyprus.

The team at Oxford University, headed by Noël Gale, has done most of the lead-isotope work in the Mediterranean area. The Oxford group maintains that while not one of the oxhide ingots from Crete is made of Cypriot copper, all of those found outside Crete were made of Cypriot copper, including the many examples from Sardinia. This also includes all of the ingots (at least all of those tested: oxhide, bun, and slab ingots) from the Cape Gelidonya and Uluburun shipwrecks. This would mean that Cypriot copper was the predominant metal for the bronze industries across the Mediterranean, from Syria to Sardinia, from about 1300 BCE on.

On the basis of the present evidence, this probably represents an extreme position, one not supported by all the analytical evidence currently available. It is possible, but not very probable, that the Sardinian ingots, now known from several intact examples and well over one hundred fragments, were all made of Cypriot copper. The

Uluburum ingots, on the other hand, have a chemical composition quite different from that of any of the ingots actually found on Cyprus. There are yet many unanswered questions, but work dealing with lead-isotope analysis is still very much in its preliminary stage. Much more needs to be done before conclusive results can be obtained. Nevertheless, the results obtained to date are very suggestive and must be taken into account in any future discussion of Bronze Age trade.

IRON METALLURGY AND THE TRANSITION TO THE IRON AGE

Early Iron and Its Properties

The Iron Age is generally taken to have begun about 1200 BCE, but that date certainly does not mark the beginning of the use of iron. Odd bits of iron are known from good archaeological contexts going back into the fifth millennium BCE. There are some famous iron objects from the third millennium, including an iron dagger from Tell Asmar (ancient Eshnunna), in the Diyala region of central Iraq; an iron sword with gold hilt from a “royal” burial at Alaca Hüyük, in north-central Turkey; and even a piece of iron associated with the Great Pyramid at Giza, in Egypt. In the Late Bronze Age iron was still considered to be exotic (and valuable) enough for use as the blade of a dagger buried with Tutankhamun and as the “stone” set in the bezel of a number of gold rings placed in Mycenaean chamber tombs. There are even earlier textual references to such rings. One of the presents that Zimri-Lim of Mari gave to Khaya-Sumu, king of Ilanşura, was “an iron ring, gold centered, with a seal adorned with two small lapis-lazuli stones.”

All of these examples of the use of iron prior to about 1100 BCE have traditionally been interpreted as objects made of meteoritic iron (not “meteoric,” a mistake in terminology made all too frequently). There is precious little good analytical evidence for this identification, which is really based upon the assumption that all early iron artifacts *must* be made of meteoritic iron. A high nickel content is said to be distinctive of meteoritic iron, but nickel can also be found in smelted iron and, in any case, very few of the

known early iron artifacts have been properly analyzed.

It is now recognized that, under the right circumstances, it is possible to produce malleable iron in the course of copper smelting. Chalcopyrite ores have a high iron content that, normally, goes off in the gangue as it separates from the metallic copper, forming a slag. Iron ores such as hematite were often added to the charge of a copper-smelting operation as a fluxing agent, designed to aid in slag-metal separation, producing a free-running, iron-silicate fayalite slag. Under certain circumstances, depending upon temperature, concentration of iron, and the right reducing conditions in the furnace, it was possible to inadvertently produce small amounts of metallic iron. It was also possible, though not desirable, to produce cast iron, even more of a curiosity than wrought iron because it could not be worked, due to its high carbon content. The lump of white cast iron from a Bronze Age context at the site of Geoy Tepe (western Iran) may be explicable in this context.

There is also a fair amount of documentary evidence relating to the use of iron, perhaps even to the smelting of iron ore. In the famous “Iron Letter,” sent by a Hittite king (probably Khattushili III, mid thirteenth century BCE) to a king of Assyria (most likely Shalmaneser I), the Hittite ruler refers to making iron, perhaps to be taken as a reference to the smelting of iron ore in order to produce a bloom of metallic iron. What is certain is that, throughout the second millennium BCE, near eastern texts contained numerous references to objects made of iron, usually of a nonutilitarian character.

With all this iron reported in circulation, why did it take so long for ancient man to move into the Iron Age? The reasons for this hinge on the physical properties of metallic iron. It has to be appreciated that in virtually every respect, wrought iron was inferior to bronze. It was softer, less attractive, and far more subject to corrosion. Most important of all, due to its high melting point (1540°C), iron was never worked as a molten metal during the Iron Age (save in China). It could not be poured into molds, to make castings, as could copper, bronze, tin, silver, gold, and lead. Iron had to be hammered, the blacksmith first having to consolidate a hot, spongy bloom of iron mixed with slag. By ham-

mering out the slag he was able to produce a usable lump of iron. In order to use that iron, however, it was necessary to reheat the lump of iron and forge the hot metal to the desired shape. In all, a very labor-intensive procedure.

Iron did have several advantages. For one, it was more widely available and more accessible, hence cheaper. Twelve elements make up more than 99 percent of the continental crust of the earth, with oxygen alone counting for almost half of the total. Of the twelve, only one metal, iron, was of any use to ancient man. It makes up 5.8 percent of the total. By comparison, copper accounts for 0.0058 percent, tin for 0.00015 percent, silver for 0.000008 percent, and gold for 0.0000002 percent. These figures, to a very great extent, account for the ways the different metals have been used throughout human history. Iron, for example, is one hundred times more plentiful than copper and almost four thousand times more plentiful than tin.

What has to be taken into account, of course, is not only total amounts but also relative concentrations. It is the latter that has made possible any serious exploitation of the mineral resources of the earth's continental crust. Lead, for example, has an average abundance of 0.001 percent, but certain ore deposits can be as rich as 20 percent lead. What these figures really mean is that rich iron ore deposits are quite common, copper ore deposits much less common but still plentiful, tin deposits quite rare, and gold deposits exceedingly scarce.

Thus iron ore deposits were available locally in almost every country of the ancient world, save the island of Cyprus. (Yet our best evidence for the early use of iron as a utilitarian metal comes from Cyprus!) There was, in other words, a definite cost incentive to develop ways of putting iron to practical use. Some scholars believe that this incentive was further stimulated by a shortage of copper and tin brought on by disruptions of international trade at the end of the Bronze Age that made it almost impossible to augment a bronze supply increasingly based on the reuse of scrap metal. This theory, however, fails to account for the number of high-tin bronzes found at a number of early Dark Age sites in Greece and the Levant.

Simple wrought iron, as it came from the bloomery furnace, was not a very useful metal,

being quite soft. The addition of carbon, absorbed into the surface of the iron by a sort of osmosis while the hot iron was in contact with charcoal for an extended period in a reducing atmosphere, greatly increased the hardness of the metal. Such iron, with up to 0.8 percent carbon, is known as steel. If this red-hot steel was quenched, by plunging the hot metal into a bath of cold water, the resulting product was harder than any bronze. The quenching produced a layer of very hard martensite on the surface of the iron, the amount of martensite formed dependent upon the thickness of the object in question (and thus the rate of cooling). If too much martensite was produced, the resulting steel would be very hard but also very brittle and liable to shatter. It was then necessary to reheat the object in an oxidizing atmosphere, in order to relieve the strains from the freshly formed martensite, a process known as tempering. Tempering was actually a trade-off, sacrificing hardness for greater durability and toughness. It was a complex process developed empirically within a technological climate where the existence of oxygen and carbon was completely unknown.

The remarkable thing is that once serious work in iron got under way, in the twelfth century BCE, all the necessary technology for producing effective tools, implements, and weapons of quenched and tempered steel was developed in surprisingly short order. By the eleventh century, objects such as an iron knife from a tomb in the Cypriot cemetery of Idalion (modern Dali) and an iron pick from the site of Har Adir in the Upper Galilee of Israel show all the elements of the technology just described. A miniature ax from Pella, in Jordan, produced by the same technology, was published as being from the Middle Bronze Age, but must in fact date to the very end of the Late Bronze Age, more in keeping with the technological development outlined here. The steel artifacts from the Iron IA (twelfth century) burial cave in the Beqa' Valley, Jordan, provide an interesting body of material, in that steel was used there to produce bracelets and rings. There is no metallurgical reason for making such objects out of steel, and it has been suggested that a special smelting technology had been used to produce the Beqa' steel.

The Bronze Age/Iron Age Transition

The early history of iron metallurgy has traditionally been seen in terms of a monopoly on the secrets of working with iron. The Hittites were supposed to have exercised such a monopoly during the Late Bronze Age, a factor allegedly contributing to their military successes, especially against the Egyptians at the battle of Qadesh (Tell Nebi Mend, Syria) around 1275 BCE. With the fall of the Hittite Empire, at the end of the Bronze Age, control over the technology of ironworking supposedly passed to the Philistines. In turn, the Philistines were able to lord it over the Hebrews because they (and their Canaanite allies) were said to possess iron weapons, especially chariots of iron.

The Hittites certainly made use of iron, and Hittite texts contain an unusual number of references to objects made of iron. The Philistines also seem to have played a significant role in the development of ironworking technology. But neither Hittites nor Philistines exercised anything resembling a monopoly on the use of iron. The evidence for such monopolies is flimsy. The idea of a Hittite iron monopoly was based solely on the "Iron Letter" cited above. The Philistine monopoly likewise was based on a single passage, 1 Samuel 13:19–22, which in any case does not mention iron, stating only that, with no smith in the land of Israel, the Hebrews were forced to take their plowshares, mattocks, axes, and sickles to the Philistines for repairs. Nor does the text state that the Hebrews were without iron, as commonly claimed, only that they were without metal weapons. The Philistines controlled not the use of iron but the working of iron weaponry. This implies that by 1000 BCE, ironworking was still a specialized activity, not widespread and not available to everyone.

Exactly where such work was carried out is still very much a mystery. There are no early iron workshops and no iron furnaces have been identified that can be dated earlier than Hellenistic times. The only possible exception would be the furnace excavated at Tel Yin'am in the Lower Galilee, dated to the thirteenth century BCE. If this was an iron-smelting furnace, it was a very experimental one. An iron-smelting furnace has been reported from the Late Bronze Age site of Kamid al-Loz (ancient Kumidi), in Lebanon,

but the shops excavated there seem to have worked only copper and bronze.

Reference should also be made to the remarkable installations published by the Georgian scholar D. A. Khakhutaishvili in 1987. Between 1960 and 1984 Georgian scholars excavated more than four hundred ironworking installations on the eastern shore of the Black Sea, the ancient kingdom of Colchis. Presumably the industrial complex found there extended to the south, into modern Turkey. The excavators believe, on the basis of a series of radiocarbon dates, that iron smelting began here about 1500 BCE and that, in the early first millennium, the area supplied iron for both Assyria and Urartu. A detailed archaeological and metallurgical study of these fascinating remains needs to be carried out. The early dates for iron-smelting activities that have been proposed would, if substantiated, completely revise our understanding of the beginnings of iron metallurgy in the ancient world.

Origins of Iron Metallurgy

Before 1960 it was commonly held that iron metallurgy began in central Europe, among the Germanic tribes of the Black Forest. Along with Geometric pottery and the practice of cremation, the knowledge of ironworking was thought to be one of the things the Dorians brought with them in their migration into central and southern Greece. Then it was recognized that the countries of the eastern Mediterranean were far ahead of Europe in their use of iron and, if any diffusion of technology was to be posited, it should be from Greece into Europe. Ironworking in Greece, in turn, was thought to have developed under stimulus from Cyprus after 1200, when the Greeks conquered and colonized the western half of the island.

Such diffusionist conjectures are tendentious and unnecessary. Early ironworking in Cyprus and Palestine is well documented, thanks to the analytical work done on relevant finds, yet the simple use of iron seems to have been on a comparable level in Crete and the Greek mainland. As for Europe, the iron industry in what is now Romania goes back into the twelfth and thirteenth centuries BCE, and the earliest iron artifact from Europe, a knife tang from the site of Gánovce in Slovakia, is dated to the seventeenth

century BCE, making it far earlier than any comparable object from the eastern Mediterranean. This curious object from Gánovce, apparently made to be attached to a bronze blade, also has bronze-capped iron rivets and is even said to be made of smelted iron. It shows how little we actually know about the use of iron during the second millennium BCE.

The most distinctive early iron artifact type from the eastern Mediterranean is an iron knife with a grip of bone or ivory ending in a ring-shaped finial and held in place with bronze rivets. Examples are known from many sites in Greece, Crete, the islands of the Aegean, Cyprus, and Palestine, all from twelfth–eleventh-century contexts. Again the inspiration for such a knife is said to come from Europe, but there is no reason why such an artifact cannot be understood within its Mediterranean context. The European parallels that have been suggested are different in all respects, save for the ring finial. Recently a superb, completely preserved example of such a knife was excavated at Tel Mique in Israel, from what seems to be a cult context in the heart of the Philistine city.

From about 1200 to 1000 BCE, iron metallurgy seems to have developed at about the same time across a broad area, from eastern Europe to the Levant. Such developments probably have a common background that, at present, can but dimly be perceived. The stimulus to work in iron, however, has nothing to do with a primitive “arms race,” with military superiority to be gained through the use of iron weapons. In fact, the iron being produced by the Assyrians in the seventh century was, technologically, far inferior to that being used by the Cypriots in the eleventh.

Iron has been called the metal of the common man, even the democratic metal. Perhaps by virtue of the fact that it could not be cast, iron became a metal easier to work with than bronze. The blacksmith never had to be concerned with the arcane skills associated with preparing the intricate series of investments and molds used in the casting of a life-size bronze statue, in casting the separate pieces of that statue, and then joining those pieces together by means of rivets and solder. By the simplicity of its solid-state technology, iron became a metal that could be worked at almost every level of society.

In the influential book entitled *What Happened in History*, first published during World War II, Vere Gordon Childe argued that “cheap iron democratized agriculture and industry and warfare too. Any peasant could afford an iron ax to clear fresh land for himself and iron plowshares wherewith to break up stony ground. The common artisan could own a kit of metal tools that made him independent of the households of kings, gods or nobles.” The simplicity of iron-working took metallurgy out of the palace, just as the alphabet had done for the art of writing.

BIBLIOGRAPHY

Copper Mining and Early Copper Metallurgy

- D. P. AGRAWAL, “The Indian Bronze Age Cultures and Their Metal Technology,” *Advances in World Archaeology* 1 (1982), a basic discussion of development of metal technology in ancient India; PESSAH BARADON, *The Cave of the Treasure: The Finds from the Caves in Nahal Mishmar* (1980), the basic publication of the most important Chalcolithic metal hoard; E. N. ČERNÝCH, “Aibunar: A Balkan Copper Mine of the Fourth Millennium BC,” *Proceedings of the Prehistoric Society* 44 (1978), the best publication in English of joint Bulgarian-Soviet investigations of this Late Neolithic mine; P. S. DE JESUS, S. AL-SUQIRAN, B. RIHANI, A. KESNAWI, M. TOPLYN, and J. INCAGNOLI, “Preliminary Report of the Ancient Mining Survey 1981 (1401),” *Atlatl* 6 (1982), the only report on early mining sites of the Arabian Peninsula; A. HAUPTMANN, F. BEGEMANN, E. HEITKEMPER, E. PERNICKA, and S. SCHMITT-STRECKER, “Early Copper Produced at Feinan, Wadi Araba, Jordan: The Composition of Ores and Copper,” *Archeomaterials* 6 (1992); BORISLAV JOVANOVIĆ, “Early Metallurgy in Yugoslavia,” in *The Beginning of the Use of Metals and Alloys*, edited by ROBERT MADDIN (1988), a good account of the author’s work at Rudna Glava; Y. MAJIDZADEH, “An Early Industrial Proto-Urban Center on the Central Plateau of Iran: Tepe Ghabristan,” in *Essays in Ancient Civilization Presented to Helene J. Kantor*, edited by A. LEONARD, JR., and B. B. WILLIAMS (1989).
- PETER R. S. MOOREY, “The Archaeological Evidence for Metallurgy and Related Technologies in Mesopotamia, c. 5500–2100 BC,” *Iraq* 44 (1982), and *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence* (1994); M. MÜLLER-KARPE, “Aspects

of Early Metallurgy in Mesopotamia," in *Archaeometry* 90, 27th International Symposium on Archaeometry, edited by E. PERNICKA and G. A. WAGNER (1991); J. D. MUHLY, "Timna and King Solomon," *Bibliotheca Orientalis* 41 (1984), an evaluation of results of the Timna project; A. LEO OPPENHEIM, *Letters from Mesopotamia* (1967); CLAIR C. PATTERSON, "Native Copper, Silver, and Gold Accessible to Early Metallurgists," *American Antiquity* 36, no. 3 (1971), an important discussion of the relative availability of native metals; FRANCES PINNOCK, "Observations on the Trade of Lapis Lazuli in the Third Millennium BC," in *Wirtschaft und Gesellschaft von Ebla*, edited by HARTMUT WAETZOLDT and HAROLD HAUPTMANN (1988); D. T. POTTS, "Rethinking Some Aspects in the Arabian Gulf," *World Archaeology* 24, no. 3 (1993).

GERHARD SPERL, "Zur Urgeschichte des Bleies," *Zeitschrift für Metallkunde* 81, no. 11 (1990), demonstrates that beads from Çatal Hüyük were made of galena, not metallic lead; MIRIAM TADMOR, "The Judean Desert Treasure from Nahal Mishmar: A Chalcolithic Traders' Hoard?" in *Essays in Ancient Civilization Presented to Helene J. Kantor*, edited by A. LEONARD, JR., and B. B. WILLIAMS (1989); FRANÇOISE TALLON, *Métallurgie susienne*, vol. 1, *De la fondation de Suse au XVIII^e siècle avant J.C.*, 2 vols. (1987), publication of all early copper and bronze objects excavated at Susa prior to 1940, with many analyses; GERD WEISGERBER, "Makan and Meluhha: Third Millennium BC Copper Production in Oman and the Evidence of Contact with the Indus Valley," in *South Asian Archaeology 1981: Proceedings of the Sixth International Conference of the Association of South Asian Archaeologists in Western Europe*, edited by BRIDGET ALLCHIN (1984).

Tin and the Development of Bronze Metallurgy

IZAK CORNELIUS, "Ice and Ice-Houses in the Mari Texts," *Journal of Northwest Semitic Languages* 13 (1987); G. DOSSIN, "Archives de Sûmu-Iamam, roi de Mari," *Revue d'assyriologie et d'archéologie orientale* 64 (1970), a publication of texts involving copper from Teima, and "La route de l'étain en Mésopotamie au temps de Zimri-Lim," *Revue d'assyriologie et d'archéologie orientale* 64 (1970), the first publication of the much-discussed "tin itinerary" from Mari; J. M. DURAND, "Relectures d' ARMT VIII, II: ARMT VIII, 89 et le travail du métal à Mari," *MARI* 2 (1983); C. EDENS and G. BAWDEN, "History of Taymā' and Hejazi Trade During the First Millennium BC," *Journal of the Economic and Social History of the Orient* 32 (1989); AVI GOPHER and TSVIKA TSUK, *Ancient Gold. Rare Finds from the Nahal Qanah Cave* (1991), the only publication of gold and electrum circlets from

the cave deposit; F. JOANNÈS, "L'Étain, de l'Elam à Mari," in *Mésopotamie et Elam: Actes de la XXXVI^{ème} rencontre assyriologique internationale*, edited by L. DE MEYER and H. GASCHÉ (1991), collects evidence for the price of tin at Mari; HENRI LIMET, "La technique du bronze dans les archives de Mari," in *Miscellanea Babylonica: Mélanges offerts à Maurice Birot*, edited by J. M. DURAND and J. R. KUPPER (1985), discusses "washing" (refining) operations at Mari, and *Textes administratifs relatifs aux métaux. Archives royales de Mari*: 25 (1985), is a basic collection of texts from Mari dealing with metals and metal technology.

J. D. MUHLY, "Sources of Tin and the Beginnings of Bronze Metallurgy," *American Journal of Archaeology* 89 (1985), a basic survey, with extensive notes; K. R. VEENHOF, "Prices and Trade: The Old Assyrian Evidence," *Altorientalische Forschungen* 15 (1988); K. A. YENER, H. ÖZBAL, A. MINZONI-DEROCHÉ, and B. AKSOY, "Bolkardağ: Archaeometallurgy Surveys in the Taurus Mountains, Turkey," *National Geographic Research* 5, no. 4 (1989); K. A. YENER and PAMELA J. VANDIVER, "Tin Processing at Göltepe, an Early Bronze Age Site in Anatolia," *American Journal of Archaeology* 97 (1993), is a basic reconstruction of the process whereby authors think tin was produced in Taurus region, followed by response by J. D. Muhly and replies by the authors and by Lynn Willies.

Lead-Isotope Analysis and the Bronze Age Metals Trade

J. E. DAYTON and A. DAYTON, "Uses and Limitations of Lead Isotopes in Archaeology," in *Proceedings of the Twenty-fourth International Archaeometry Symposium*, edited by J. S. OLIN and M. J. BLACKMAN (1986), an excellent example of how not to use lead-isotope analyses; C. H. DESCH, "Sumerian Copper," in *Report of the Ninety-Sixth Meeting, British Association for the Advancement of Science* (1929), the beginning of modern analytical work on Mesopotamian copper and bronze artifacts; N. H. GALE, "Lead-Isotope Analyses Applied to Provenance Studies: A Brief Review," in *Archaeometry: Proceedings of the 25th International Symposium*, edited by YANNIS MANIATIS (1989), an excellent discussion of basics of technique; N. H. GALE, Z. A. STOS-GALE, and G. R. GILMORE, "Alloy Types and Copper Sources of Anatolian Copper Alloy Artifacts," *Anatolian Studies* 35 (1985); E. PERNICKA, F. BEGEMANN, S. SCHMITT-STRECKER, and A. P. GRIMANIS, "On the Composition and Provenance of Metal Artefacts from Poliochni on Lemnos," *Oxford Journal of Archaeology* 9, no. 3 (1990); E. V. SAYRE, K. A. YENER, E. C. JOEL, and I. L. BARNES, "Statistical Evaluation of the Presently Accumulated Lead Isotope Data from Anatolia and Surrounding Regions," *Archaeometry* 34,

no. 1 (1992); and K. A. YENER, E. V. SAYRE, E. C. JOEL, H. ÖZBAL, I. L. BARNES, and R. H. BRILL, "Stable Lead Isotope Studies of Central Taurus Ore Sources and Related Artifacts from Eastern Mediterranean Chalcolithic and Bronze Age Sites," *Journal of Archaeological Science* 18 (1991).

Iron Metallurgy and the Transition to the Iron Age

VERE GORDON CHILDE, *What Happened in History* (1942); J. G. CURTIS, T. S. WHEELER, J. D. MUHLY, and R. MADDIN, "Neo-Assyrian Ironworking Technology," *Proceedings of the American Philosophical Society* 123, no. 6 (1979), the basic publication of analytical evidence for Neo-Assyrian iron industry; D. DAVIS et al., "A Steel Pick from Mt. Adir in Palestine," *Journal of Near Eastern Studies* 44 (1985); EL SAYED EL GAYER and M. P. JONES, "Metallurgical Investigation of an Iron Plate Found in 1837 in the Great Pyramid at Gizeh, Egypt," *Journal of the Historical Metallurgy Society* 23 (1989), but in the same issue of the journal a short note by P. Craddock and J. Lang casts doubt upon the authenticity of the piece; D. A. KHAKHUTAISHVILI, "A Contribution of the Kartvelian Tribes to the Mastery of Iron Metallurgy in the Ancient Near East," in *Wirtschaft und Gesellschaft im alten Vorderasien*, edited by J. HARMATTA and G. KOMORÓCZY (1976), the

only such material in English (the more detailed book, published in 1987, is in Russian); HAROLD LIEBOWITZ and ROBERT L. FOLK, "Archaeological Geology of Tel Yin'am, Galilee, Israel," *Journal of Field Archaeology* 7 (1980); HENRI LIMET, "Documents relatifs au fer à Mari," *MARI* 3 (1984), references in Mari texts to objects made of iron; PATRIK E. MCGOVERN, "The Innovation of Steel in Transjordan," *Journal of Metals* 40, no. 7 (1988); PAULA M. MCNUTT, *The Forging of Israel: Iron Technology, Symbolism, and Tradition in Ancient Society* (1990); E. PHOTOS, "The Question of Meteoritic Versus Smelted Nickel-Rich Iron: Archaeological Evidence and Experimental Results," *World Archaeology* 20, no. 3 (1989).

BRIAN J. SKINNER, "A Second Iron Age Ahead?" *American Scientist* 64 (1976), on the relative abundance of metals in the earth's mantle; ANTHONY M. SNODGRASS, "Iron and Early Metallurgy in the Mediterranean," in *The Coming of the Age of Iron*, edited by THEODORE WERTIME and J. D. MUHLY (1980); T. STECHWHEELER, J. D. MUHLY, K. R. MAXWELL-HYSLOP, and R. MADDIN, "Iron at Taanach and Early Iron Metallurgy in the Eastern Mediterranean," *American Journal of Archaeology* 85 (1981); and JANE C. WALDBAUM, "The First Archaeological Appearance of Iron and the Transition to the Iron Age," in *The Coming of the Age of Iron*, edited by THEODORE WERTIME and J. D. MUHLY (1980).

SEE ALSO **Material, Technology, and Techniques in Artistic Production** (Part 7, Vol. III) and various chapters in PART 5: HISTORY AND CULTURE.

Early Bronze Age Tin Processing at Göltepe and Kestel, Turkey

—K. ASLIHAN YENER

The source of tin, one of the most important components of the high-tech industry of the Bronze Age has been elusive, despite the early appearance of tin bronzes in Anatolia in the late fourth millennium BCE. With the discovery of high trace levels of stannite at Bolkardağ in 1985; cassiterite (tin oxide) in the Kestel mine in 1987; and the tin-metal processing site of Göltepe in 1988, the stage was set for unraveling one of the major unknowns that bewildered scholars working with metals in the Near East. The importance of the excavations at these Early Bronze Age sites, then, is the information to be adduced from them concerning a major tin source that is easily accessible to major urban centers in the Near East and the methods of tin-metal manufacturing for the alloying of bronze. In addition, these sites have provided the opportunity to investigate the factors that influenced and the ele-

ments that constituted the formation of craft specialization in a metalliferous zone containing a source of tin in the formative periods of bronze metallurgy.

The Kestel tin mine and the production/habitation site of Göltepe are located in the central Taurus Mountains, 4 kilometers (2.4 miles) west of Çamardı Niğde province and 80 kilometers (48 miles) north of Tarsus. They are strategically situated along the north-south Ecemiş (pronounced Ejemish) fault zone, providing access to both central Anatolia and the Cilician plains and the Mediterranean coast to the south as well. Excavations began at the Kestel mine in 1987 and the excavations at Göltepe began in 1990; both are still in progress, under the direction of K. A. Yener. The operations at these sites are part of a larger program that began in 1981, integrating the results of excavations and regional studies with technical studies of the

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material evidence. The extensive deposits of copper, iron, silver, and gold, in addition to the presence of alloying materials, formed the basis of an incipient industrial revolution that subtly altered the way the environment was manipulated and, in turn, provided the backdrop for a number of other changes in institutional systems in the Bronze Age.

The tin mines (including Kestel) and their associated specialized-activity areas are situated upslope from several rivers coursing through the Niğde Mas-sif, a large volcanic dome formation. Kuruçay (pronounced Kuruchay) stream, with the highest analyzed cassiterite sediments, also contains sediments rich in cassiterite, pyrite, hematite, garnet, tourmaline, magnetite, scheelite, cinnabar, titanite, rutile, apatite, monazite, and gold. The Göltepe locality is geologically distinct from the Kestel tin-mine slope, and is mostly a softer shale and graywacke.

The Kestel mine, located above Kuruçay stream, is situated in an area that is characterized by intense tectonic movement and is a major subduction zone; thus resultant mineralization is common to the region. The mine was cut into a slope composed of granite, marble, gneiss, and quartzite. The site of Göltepe, measuring 65 hectares [163 acres] and fortified at the summit, lies 2 kilometers (1.2 miles) due south of the Kestel tin mine, across the valley on a prominent hill-top that overlooks Kuruçay stream. Natural springs surround Göltepe on all sides, and pockets of fertile, agriculturally rich land lie 4 kilometers (2.4 miles) southeast, near the Ecemiş River and over the massif in the vast Niğde and Konya plains.

Cassiterite was found at the Kestel mine by the Turkish Geological Exploration and Research Institute (MTA) after sifting through eighty tons of alluvial stream sediments in the course of a major five-year research project investigating the sources of heavy minerals. The tin in the Kestel mine is not obvious today because only subeconomic material remains unmined. However, panning in the local streambeds by the survey team, the MTA teams, and the teams from the Historical Metallurgy Society of England demonstrated that tin was present in major quantities. The most convincing evidence of tin production, however, is the thousands of crucible fragments with tin-rich slag accretion found at the excavations at Göltepe.

Recent analyses by atomic absorption spectroscopy from veins remaining unmined inside the Kestel mine indicate that even after extensive mining in antiquity, the veins still contained more than 1.5 percent tin. There have been two primary mineralizing episodes, an earlier tin-bearing one and a later hematite one with weak tin. Lynn Willies estimates that close to five thousand tons of tin ore may have been removed

from the Kestel mine entrance area alone, and notes that evidence of ore extraction continues below the marble into the underlying quartzitic schist and granitic pegmatites. As of the 1992 excavation season, the Kestel mine measured 1.5 kilometers (0.9 mile) in its greatest known extent.

As presently understood, the Kestel mine was originally in operation around 3000 BCE, probably as an open-pit mine. Near the beginning of Early Bronze I/II, the mine expanded into shaft-and-gallery systems, workshops were set up outside the mine entrance, and Göltepe was settled. The 1992 discovery of a large mortuary chamber inside the abandoned mine shafts at Kestel has provided demographic information about the miners of antiquity.

Göltepe grew into a possibly substantial walled town as well as a tin-processing workshop site near the middle of the third millennium (Early Bronze II), at the same time that bronze was widely used in Anatolia and its use was becoming more widespread in Syria and Mesopotamia. The settlement and the mine attained their largest extent during this and the first part of Early Bronze III. At this time, these sites were one of a number of centers that lined the strategic passes through the Taurus Mountains, and may have controlled the resources, the production, and the intermontane traffic during the pre-Akkadian period.

Some of the most important finds relating to the processing of tin have been the hundreds of vitrified earthenware crucibles with a glassy slag accretion rich in tin. Constructed of a coarse straw and grit-tempered ware, they have slagged surfaces measuring between 30 and 90 percent tin content, and their rim sizes range from six centimeters (2–4 inches) in diameter to fifty centimeters (20 inches). In some instances, tin-metal particles were trapped in slag and identified by microprobe, scanning electron microscopy, and X-ray diffraction as the product of the smelt. The activities that are demonstrated by analysis at the Conservation Analytical Laboratory of the Smithsonian Institution include a labor-intensive, multistep, low-temperature process carried out at between 800° and 950°C. Processing involved intentionally producing tin metal by reduction firing of tin oxide in crucibles—with repeated grinding, washing, panning, and resmelting. The raw materials being processed in the crucibles consisted of tin oxide (cassiterite) with no copper ores present, along with calcium carbonate, iron oxide with minor amounts of magnesia and titania, an aluminosilicate containing more than 12 percent potassia, and soda and charcoal as the reduction agents. Clearly, tin processing occurred at Göltepe. This recent evidence finally puts to rest the initial skepticism as to the concentrations of tin in the Taurus and reveals it to be an important tin-processing center.

BIBLIOGRAPHY

T. BASS, "Land of Bronze," *Discover* 12 (1991); P. CRADDOCK, "A Short History of Firesetting," *Endeavour* n.s. 16 (1992); E. KAPTAN, "Finds Relating to the History of Metallurgy in Turkey," *MTA Bulletin* 111 (1990); J. D. MUHLY, F. BEGEMANN, O. OZTUNALI, E. PERNICKA, S. SCHMITT-STRECKER, and G. A. WAGNER, "The Bronze Age Metallurgy of Anatolia and the Question of Local Tin Sources," in *Archaeometry '90. 27th International Symposium on Archaeometry*, edited by E. PERNICKA and G. WAGNER (1991); P. B. VANDIVER, R. KAYLOR, J. FEATHERS, M. GOTTFRIED, K. A. YENER, W. F. HORNYAK, and A. FRANKLIN, "Thermoluminescence Dating of a Crucible Fragment from an Early Tin Processing Site in Turkey," *Archaeometry* 35 (1993); P. B. VANDIVER, K. A. YENER, and L. MAY, "Third Millennium B.C. Tin Processing Debris from Göltepe (Anatolia)," in *Materials Issues in Art and Archaeology*, vol. 3, edited by P. B. VANDIVER, J. DRUZIK, and G. S. WHEELER (1993).

LYNN WILLIES, "An Early Bronze Age Tin Mine in Anatolia," *Bulletin of the Peak District Mines Historical Society* 11, no. 2 (1990); "Report on the 1991 Archae-

ological Survey of Kestel Tin Mine, Turkey," *Bulletin of the Peak District Mines Historical Society* 11, no. 5 (1991); and "Reply to Hall and Steadman," *Journal of Mediterranean Archaeology* 5, no. 1 (1992); K. A. YENER and M. GOODWAY, "Response to Mark E. Hall and Sharon R. Steadman, 'Tin and Anatolia: Another Look,'" *Journal of Mediterranean Archaeology* 5 (1992); K. A. YENER and H. ÖZBAL, "The Bolkardağ Mining District Survey of Silver and Lead Metals in Ancient Anatolia," in *Proceedings of the 24th International Archaeometry Symposium*, edited by J. S. OLIN and M. J. BLACKMAN (1986), and "Tin in the Turkish Taurus Mountains: The Bolkardağ Mining District," *Antiquity* 61 (1987); K. A. YENER, H. ÖZBAL, E. KAPTAN, A. N. PEHLIVAN, and M. GOODWAY, "Kestel: An Early Bronze Age Source of Tin Ore in the Taurus Mountains, Turkey," *Science* 244, no. 4901 (1989); K. A. YENER and P. B. VANDIVER, "Reply to J. D. Muhly, 'Early Bronze Age Tin and the Taurus,'" *American Journal of Archaeology* 97 (1993), with an appendix by LYNN WILLIES.

The Fortification of Cities in the Ancient Near East

AMIHAI MAZAR

FORTIFICATIONS STARTED TO APPEAR in the ancient Near East during the Neolithic period, when the emergence of permanent settlements must have caused rivalry between neighboring communities over land and water, resulting in warfare and, subsequently, in the need for military structures.

The earliest example of such architecture was thought to have been found at Pre-Pottery Jericho (eighth and seventh millennia BCE), where massive outer walls and a round tower were uncovered; however, more recent interpretation suggests that the Jericho wall was intended to protect the settlement against silt brought by a brook. Whatever their actual purpose, these structures are evidence for the ability of early Neolithic communities to construct large-scale walls and towers.

Later Neolithic fortifications are known from Mesopotamia and Anatolia. Tell as-Sawwan, on the middle Tigris, provides the earliest example of military architecture in Mesopotamia. During the Samarra culture (circa 5300 BCE) it was a rectangular settlement (about 220 by 110 meters [720 by 360 feet]) surrounded by a solid wall strengthened by inner, and a few outer, buttresses. One of the two gates was defended by an L-shaped wall, creating the earliest example of a gate with an indirect approach.

In Anatolia, the Neolithic settlement at Hacılar (pronounced Hajilar) (circa 5000 BCE) was a

walled rectangle measuring 35 by 75 meters (115 by 245 feet). Three simple gates led to the walled enclosure, and square bastions protected the approach to one of these gates. In the late fifth millennium, Chalcolithic Mersin (in Cilicia) was a fortified settlement with a gate protected by two projecting towers, a city wall with protruding buttresses, and slit windows enabling the use of bows. Slings were also used in warfare.

These isolated examples from the late Neolithic and Chalcolithic periods provide the earliest evidence for the need for defense.

THE LATE FOURTH MILLENNIUM BCE

From the late fourth millennium BCE on, the thriving cultures of Mesopotamia and Egypt, as well as the cultures that developed in various other parts of the Near East, developed territorial states and the urban mode of life, which resulted in intermittent warfare. Few sites and artistic depictions illustrate the beginning of military architecture in the Near East in this crucial period.

The Sumerian colony at the site of Habuba al-Kabira on the upper Euphrates (in northern Syria), dated to the Uruk period (second half of the fourth millennium BCE), was a well-planned

rectangular city, about 18 hectares (44 acres) in area, defended by a mud-brick city wall 3 meters (about 10 feet) thick with almost fifty protruding square towers. Two city gates each had a broad guard chamber inside the city wall and two square towers flanking the entrance. In front of the main wall was a secondary, weaker defense wall.

Probably from the same period is the remote, enigmatic fortified settlement in Jawa, in the arid, volcanic region of eastern Jordan. The 9-hectare (22-acre) site was divided into lower and upper parts, each surrounded by a city wall. Several gates, some with two succeeding chambers, led to the city. The sophisticated plan of these gates is unparalleled anywhere in the ancient Near East until the late third millennium BCE.

In Egypt, some depictions of fortified cities are known from this period. The best known is the "Cities Palette," dated to the end of the Predynastic period, in which seven square, fortified enclosures with rounded corners and square towers are seen (fig. 1). These may be interpreted as either fortified towns or forts. (See also "Unification and Urbanization of Ancient Egypt" in Part 5, Vol. II.)



Fig. 1. The Late Predynastic "Cities Palette" portrays seven fortified enclosures—most probably towns—from a bird's-eye view. Each is surrounded by a wall with protruding bastions. Blocks of houses are depicted as schematic squares inside the cities. It is presently in the Cairo Museum. YIGAL YADIN, *THE ART OF WARFARE IN BIBLICAL LANDS* (1963)

THE THIRD MILLENNIUM BCE

Mesopotamia

Few examples of city fortifications have been recovered from Sumer. The most outstanding is Uruk (modern Warka), the largest of all Sumerian cities. After long development during the Proto-Literate (Uruk and Jemdet Nasr periods), Uruk of the Early Dynastic I period was surrounded by a defense wall 9.5 kilometers (almost 6 miles) long that enclosed 550 hectares (1,360 acres)—an enormous area for any city in antiquity. About nine hundred semicircular towers defended this wall. Uruk is the best illustration of the gigantic efforts Sumerian city-states invested in warfare and defense, most probably caused by the struggles between these cities. Few additional sites illustrate Sumerian fortifications, such as the Early Dynastic city at Tell Agrab in the Diyala region, where horseshoe-shaped towers resembling those of Uruk protrude from a solid wall. A temple complex inside the city was planned like a fortress: a square plan with mighty outer walls and buttresses.

The presence of fortifications shows that siege and warfare in front of the walls were practiced in this period, though none of the Sumerian artistic depictions that illustrate warfare show a siege operation.

Anatolia

The best-known of several third-millennium fortifications in Anatolia is at Troy, where several building phases of a fortified Early Bronze (henceforth EB) II–III period citadel were revealed. The citadel grew during this time from 80 to 120 meters (260 to 390 feet) in diameter and was surrounded by massive walls. In level II (Early Bronze Age II) massive bastions protruded from the wall, and in some phases the wall had a sloping glacis. The straight entrances, protected by long, parallel walls, led to the citadel. In Phase II2–3 the gate was flanked by massive towers, 47 meters (154 feet) long. In Phase II5 of EB III, the distance between the flanking walls of the gate was widened, perhaps to enable carts or chariots to enter the citadel. Two pairs of pilasters created a guard chamber that could be closed by two door wings. These gates, as well as the contemporary gate at Tell Taya in

northern Mesopotamia, may be regarded as forerunners of the second-millennium chamber gates of Syria/Palestine.

The Levant

In Israel, where a good number of EB II–III cities have been excavated (Beth-Yerah, Megiddo, Tell al-Far‘a, Khirbet Maḥruq, Taanach, Ai, Jericho, Yarmut, Tell al-Ḥesi, Tell Halif, and Arad), there is rich information concerning the development of fortifications throughout this period of thriving urban culture. The largest of these cities reached an area of 20 hectares (49 acres). The fortifications include thick city walls, buttresses, bastions, earth and stone glacis, the use of cyclopean masonry, simple postern gates, or simple gates protected by two large square towers (at Tell al-Far‘a). In the first phase (EB II) most of the examples have a simple, solid city wall, sometimes strengthened with horse shoe-shaped towers (at Arad they were constructed along the wall every 30 to 40 meters [100 to 130 feet]). These towers recall the contemporary towers at Uruk and Tell Agrab in Sumer as well as later-third-millennium BCE Aegean fortifications (at Lerna and on the island of Siros) and the late Fifth Dynasty Egyptian depiction of a fortified city in Asia found at Deshashe (see below). In the EB III phase the fortifications were enlarged and became more complicated. Walls were thickened; glacis made of sloping layers of earth or lime protected some of the walls from erosion; rectangular citadels were constructed at strategically important points along the city walls. Thus at Tell al-Ḥesi the city wall reached a thickness of 6 meters (20 feet) and an earth rampart was constructed in front of it. At Yarmut, in the Shephelah hills of Israel, an EB II thick stone wall with bastions and stone glacis was strengthened in the EB III period by the addition of an outer wall, 1.8 kilometers (1.1 miles) long and 2.6–3.6 meters (8.5–11.8 feet) thick, constructed of cyclopean masonry. A gate in this wall was planned on the principle of the “bent axis” approach, forcing a double right angle turn at the entrance to the city. Such a “bent axis” is also found in the EB II gate at Tarsus, in Cilicia. In the last phase, several rectangular stone platforms, 30 to 40 meters (100 to 130 feet) long and 8 to 12.5 meters (26 to 41 feet)

wide, were constructed along the edge of the mound, probably the foundations of freestanding bastions.

The varied and tremendous development of military structures in EB Palestine was probably the result of the division of the country into several rival city-states that were involved in internal warfare as well as in defending themselves against desert nomads and foreign invasions.

Egypt

In Egypt, fortifications and siege warfare appear to have been well known during the Early Dynastic and Old Kingdom periods, though no actual remains have been found. Funerary enclosures of the kings of the First and Second dynasties found at Abydos (Araba al-Madfuna) may be taken as evidence for the knowledge and style of fortifications in the period. The largest (Shu-net al-Zabib), dated to the time of King Khasekhemwy, is a rectangle, 145 meters (476 feet) long, surrounded by two outer walls made of mud-brick. The outer wall is 5.25 meters thick (17 feet) and is thought to have been 12 meters (39 feet) high. The inner wall still stands to a height of about 9 meters (30 feet). Of four gates that led to the enclosure, two had a guard chamber and a “bent axis” approach. A smaller example is the Second Dynasty enclosure at Hierakonpolis (Kom al-Aḥmar, Nekhen). It is rectangular in plan, and has double outer brick walls: the inner wall was 4.87 meters (16 feet) thick and perhaps 10 meters (33 feet) high; the outer wall, 2.34 meters (almost 8 feet) thick, was lower. A moat separated the two walls. The gate was in a narrow passage between two towers.

More information is gained from depictions on stone palettes and other ornaments. On the palette of King Narmer, from around the beginning of the Dynastic period, the ruler is shown in the form of a bull attacking a fortified city with rounded wall and square bastions. A square fortified enclosure or city is shown on the other side of the palette, near two Asiatic captives. (See “The History of Ancient Egypt: An Overview” in Part 5, Vol. II.) In other artistic depictions, rounded and triangular bastions are shown.

Several Old Kingdom Egyptian artistic depictions of fortifications and of warfare in front of fortified cities and forts compensate for the lack of actual remains. Hieroglyphs from this period show an oval or rectangular fortified city or enclosure, surrounded by a wall with square or rounded bastions.

A depiction in a tomb at Dishasha (late Fifth Dynasty) shows an Egyptian siege of a city in Asia. The city is rectangular, with rounded corners and semicircular bastions, recalling those of the EB II towns of Palestine. Two siege techniques are utilized: a siege ladder and a crowbar, which was probably used to break through the city gate. A relief at Saqqara (Sixth Dynasty) shows soldiers, armed with battle axes, maneuvering a wheeled siege ladder. (See "Military Organization in Pharaonic Egypt" in Part 4, Vol. I.)

THE SECOND MILLENNIUM BCE

The Levant

During the first four centuries of the second millennium BCE, the Middle Bronze Age (henceforth MB), tremendous fortification systems characterized the cities of Syria and Palestine. Some of the early MB examples in Palestine consist of a simple city wall and a gate with indirect approach (such as at Megiddo). But soon many cities were surrounded by impressive earth ramparts or glacis, and sometimes by moats (the latter are mentioned in the eighteenth century BCE Mari texts). These are the boldest phenomena of urbanization in the entire area from the upper Euphrates to the eastern Nile Delta (Tell al-Yahudiya and Heliopolis, though their identifications as Second Intermediate Period ramparts are in question). There are many variations in the details of construction, depending on the topography of the site; yet the final product is similar: the city was bordered by a steep artificial slope that isolated it from its surroundings.

The best examples of these fortifications are at places where ramparts were established on previously unsettled land as part of the foundation of new cities, or where the MB people reshaped an earlier occupation site. Among them are the lower city of Ebla (modern Tell Mardikh)

and Qatna (modern Tell Mishrifeh) in Syria; Hazor (the lower city), Dan (Tell al-Qadi), Kabri, Akko, Schechem (modern Nablus), Yavneh Yam, Tel Batash, and other sites in Palestine; and perhaps the two sites mentioned in the Nile Delta. The sizes of the ramparts are impressive: at Qatna and Hazor they are about four kilometers (2.5 miles) long and enclose eighty to one hundred hectares (200 to 250 acres). At Dan, where the rampart is 1.5 kilometers (0.9 miles) long, the excavator calculated that it contained about one-million cubic meters of construction materials. The largest ramparts—those of Dan and Hazor—are about 40 meters (130 feet) thick at the base and 15 meters (49 feet) high. Most of these ramparts have geometric shapes: a square (Qatna, Tel Batash, and perhaps Yavneh Yam and Tell al-Yahudiya), a rectangle with additions planned in the right angles (Hazor), an oval or circle (Dan, Ebla).

Another form of MB fortification is the construction of solid steep slopes (glacis) on the slopes of existing mounds or in places where newly established cities were built on hilly terrain. In Syria, examples are Karkamish (Carchemish), Alalakh and Ras Shamra (Ugarit) while in Palestine there are numerous examples, such as Jericho, Jaffa, Gezer, Shiloh, Lachish, Ashkelon, and Tel Nagila. In both types tremendous quantities of earth and stones were moved in order to create the ramparts or glacis. Different methods of retaining the earth layers were utilized. In some sites the earth was dumped on both sides of a central core wall, as at Hazor, Dan, and Tel Batash. At Hazor, the mud-brick core wall was no less than 10 meters (33 feet) thick, and had inner compartments filled with earth and pebbles (preserved to a height of over 8 meters [26 feet]). At Dan, a vertical stone core wall, 6.5 meters (21 feet) thick and at least 10 meters (33 feet) high was found, with earth layers dumped on both sides to create a rampart 50 to 60 meters (164 to 219 feet) thick. However, at both Hazor and Dan other sections through the rampart have shown no traces or very poor traces of a core wall.

In fact, various construction techniques were followed at each site, even at different sections of the same site, depending on local topographic conditions. The ramparts had outer slopes of 30 to 40 degrees, and were usually coated with a

layer of clay or lime, creating a glacis. Several sites have retaining walls made of large, undressed stones supporting the earth layers at their bottom (Jericho, Shechem). These retaining walls look almost like vertical city walls at the foot of the rampart. The remains of city walls on top of the ramparts are preserved at Hazor, Gezer, Shechem, and Jericho. In several cases foundations of massive rectangular bastions or citadels were built along the top of the rampart or glacis, such as at Ebla and Gezer. At the latter site the combination of a glacis, city wall, gate, and bastions is an impressive example of all the components of an MB fortification system.

Though earth ramparts and glacis were known in the EB period, the magnitude of the phenomenon and the construction of freestanding earth ramparts at new sites are unparalleled before the second millennium.

The ramparts and steep glacis started to appear during the first two centuries of the second millennium and became a common feature during the eighteenth and seventeenth centuries BCE. Once they were related to the Hyksos and thought to have been introduced by immigrants from outside the Levant; but now they should be considered as a local development, based on techniques known during the third millennium BCE. The massive freestanding earth ramparts of the Levant, which do not have third-millennium antecedents, may have been influenced by Mesopotamia, where the great earthworks involved in the construction of irrigation canals and possibly of fortifications created a long tradition of

organizing manpower and utilizing techniques for moving great quantities of earth and constructing embankments. The relations between the West Semitic Amorite city-states of Syria and those of Mesopotamia in the Isin-Larsa period and First Dynasty of Babylon could have inspired the fashion of constructing the earth ramparts of the Levant to some degree.

The function of the ramparts and glacis is still a debated question. Yigael Yadin suggested that they were intended to withstand the battering rams that were introduced during this period. Battering rams and siege towers are mentioned in several documents from Mari as well as in a Hittite document referring to the siege of Urshu at the end of the MB period. (See also "Ancient Mesopotamian Military Organization" and "Hittite Military Organization" in Part 4, Vol. I.) The Hittite document mentions eighty battle chariots maintaining the siege of the city, a battering ram constructed "in the Hurrian way," and the piling up of an earthen rampart in order to bring the battering ram to the city wall. A wall painting at Beni Hasan in Middle Egypt, from the end of the First Intermediate Period, may suggest the use of simple battering rams by the Egyptians; a sloping wall of a fortress is shown attacked by a pole operated by three soldiers standing under a canopy (fig. 2). Nevertheless, it is an open question to what extent the battering ram was widely used in this period.

At any rate, it is more plausible that the ramparts and glacis were intended to defend the cities against the entire gamut of siege techniques known at the time, such as tunneling

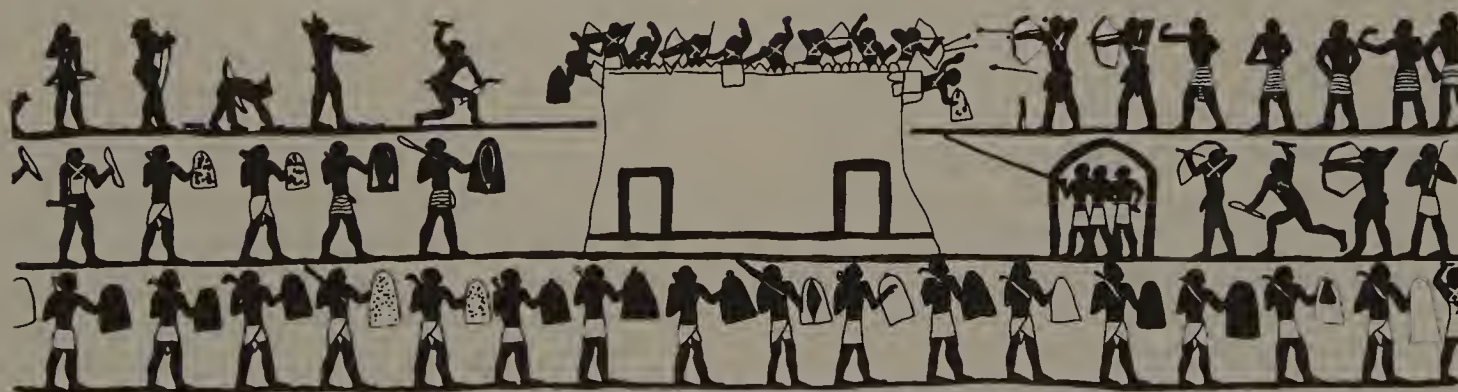


Fig. 2. Painting from the tomb of Khety at Beni Hasan, Middle Kingdom. This painting is the earliest-known documentation of the Egyptian use of simple battering rams. ADAPTED FROM PETER R. S. MOORE AND P. E. NEWBERRY, *BENI HASAN* (1891)

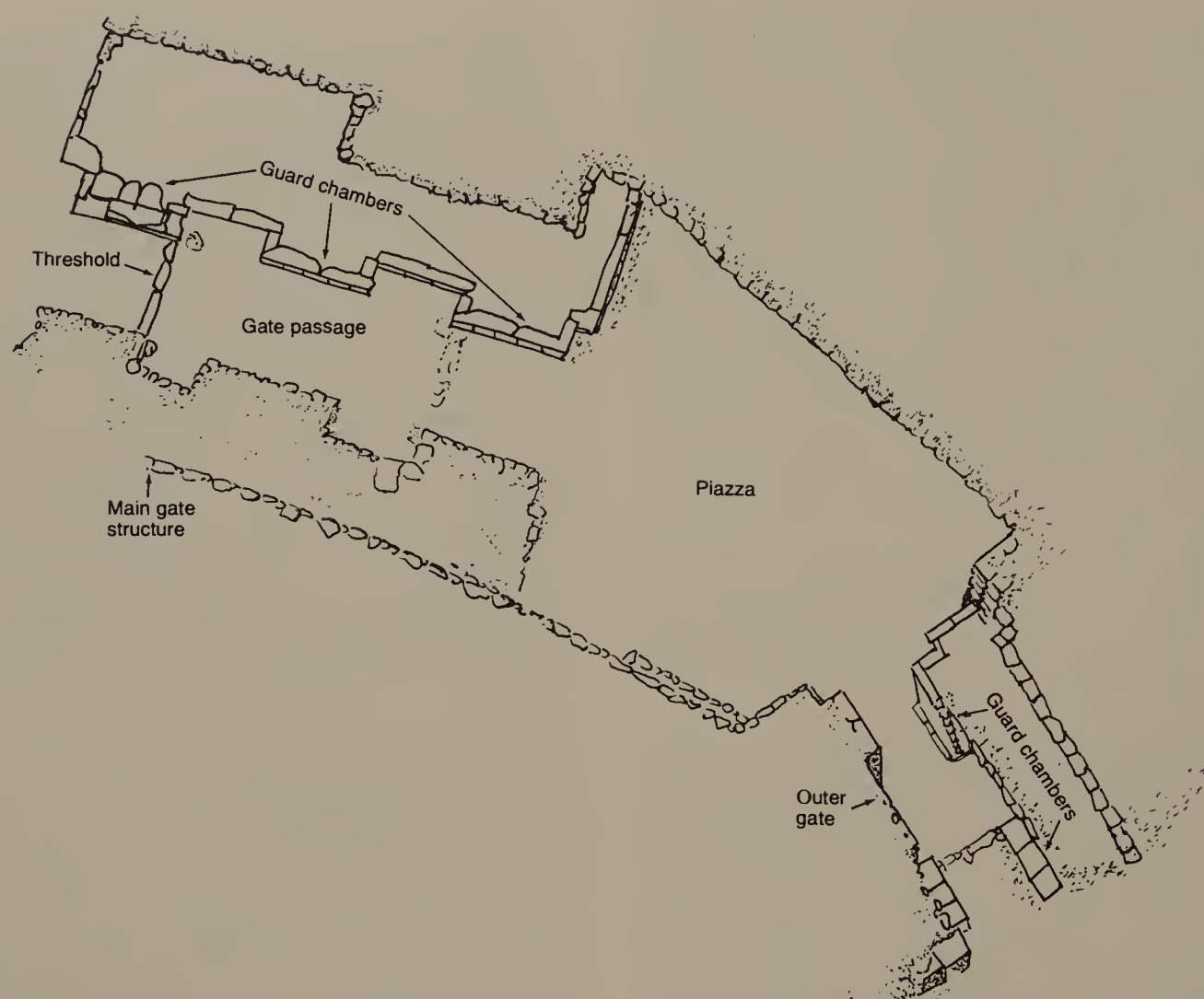


Fig. 3. Middle Bronze Age City Gate A of Ebla (Tell Mardikh), which was excavated in 1968. The gate complex includes an outer gate and an inner gate, enabling passage of chariots through the earth ramparts that surround the city. ADAPTED FROM HARVEY WEISS, ED., *FROM EBLA TO DAMASCUS: ART AND ARCHAEOLOGY OF ANCIENT SYRIA* (1985)

below the city walls, using ladders to scale defensive walls, and attacking the walls with battering rams. The steep slopes created by the ramparts and glacis would provide better protection against these siege techniques and better control of access to the city by the defenders. Some scholars claim that the glacis was intended to protect the foundations of city walls against erosion. This explanation may be correct when considering the construction of glacis on the slopes of existing mounds, but it ignores the outstanding phenomenon of the construction of freestanding ramparts on comparatively flat terrain.

Some scholars still question the rationale for constructing such tremendous earthworks, considering the rather simple siege methods against which they were intended to stand; but it may

be claimed that, like other military concepts throughout history, once the fashion was introduced, it dominated the minds of the planners of fortifications in the region for several centuries even if it required overinvestment.

MB city gates in the Levant typically were massive structures (up to 20 meters by 20 meters [66 feet by 66 feet]), with a central roofed passage about 3 meters (10 feet) wide, flanked by two towers, usually with inner chambers and corridors leading to a second floor. The gate passage was straight and divided by three pairs of pilasters, creating four guard chambers. Two pairs of doors made it possible to lock the gate passage both to the outside and to the city, thus turning the gate house into a defensible fort. The plan and dimensions of the gates were suited to the

passage of chariots, which most probably were introduced during this period. Such gates are known throughout the region, from Alalakh and Ebla in northern Syria to Tell al-Far'a in southern Palestine. There were also gates with only two chambers, created by two pairs of pilasters. At Dan such a gate was preserved with its brick arches, and at Ebla one was constructed as an outer gate in front of a main gate that had four chambers (fig. 3).

The massive MB II ramparts, glacis, gates, and bastions were constructed during the height of the Amorite West Semitic kingdoms of Syria-Palestine in the twentieth through seventeenth centuries BCE. They were the outcome of the development of an extremely fragmented and competitive urban culture based on a city-state system.

During the Late Bronze period (1550–1200 BCE; henceforth LB), when Syria and Palestine were to a large degree under the domain of foreign empires, very few fortifications were constructed in this region, though in some cities the immense MB fortifications may have continued in use. The lack of LB fortifications in many Canaanite cities has led to the suggestion that the Egyptian imperial government forbade the Canaanite rulers to construct fortifications. There are a few exceptions, however. At Hazor, the largest Canaanite city, the MB ramparts and gates continued to be in use, and the city walls were rebuilt during the LB period.

In contrast with the lack of fortification in LB Canaan, Egyptian depictions of Canaanite cities show them as strong fortresses, with inner citadels and fortified gates. The contrast between these depictions and the actual finds is illustrated by Ashkelon, which is shown in a Nineteenth Dynasty relief at Karnak as a strongly fortified city, although the excavations did not reveal any fortifications of the LB period. It is possible that the tremendous rampart and glacis of the MB period at this site continued to be in use during the LB. It is also possible that the Egyptian illustrations were no more than stereotyped depictions of fortified cities, without any basis in reality.

Egypt

Very little is known about second-millennium fortifications within Egypt. The mud-brick wall,

perhaps of a sacred enclosure at Elkab, is one of the few known examples, though its exact date (either Middle Kingdom or New Kingdom) is unknown. It surrounds an area 510 by 593 meters (1,670 by 1,950 feet); its thickness is 12 meters (39 feet), and its height is 11 meters (36 feet). In each side there were two gates with brick vaults resting on three brick arches.

A series of twelve forts found in Nubia, along a 60-kilometer (37-mile) stretch at the Second Cataract of the Nile, is the best illustration of Egyptian Middle Kingdom military architecture. They were intended to protect the routes to Nubia, where gold and minerals were extracted by the Egyptians. Some of the forts were built opposite each other, one on each side of the river. The forts utilized natural rock scarps, and their plan was fitted to the local topographic conditions. Their fortification usually included a massive wall with square or rounded bastions, a glacis, a moat with a scarp and a counterscarp wall, a front girdle wall, and a fortified gate approached between two flanking walls. The main wall had crenellations, and the top of the wall was reached by staircases or ramps. A street along the wall enabled easy movement (a forerunner of the Roman *pomoerium*).

The best-known example is the fortress at Buhen (fig. 4), a rectangle 85 by 138 meters (280 by 450 feet) with a main wall 4.8 meters (16 feet) thick that it is assumed to have reached a height of 10 meters (33 feet). Square bastions protruded from the wall, and the lower part of the wall and the bastions were slanted. A lower front wall was constructed on a sloping rampart, in front of which there was a moat, 4 to 8 meters (13 to 26 feet) wide and 6.5 meters (21 feet) deep. Semicircular towers protruded along the outer wall. Both these towers and the outer wall had firing windows with groups of three slanted channels that were designed to fit the range of arrows, so that the entire area in front of the wall could be covered by fire. The entrance to the fortress was through a gate protected by two long walls; the moat was crossed by a drawbridge. This and the other Nubian fortresses attest a developed military architecture in Middle Kingdom Egypt whose design matched those of medieval European fortresses.

Surprisingly, only a few examples of Egyptian military architecture are known from the New

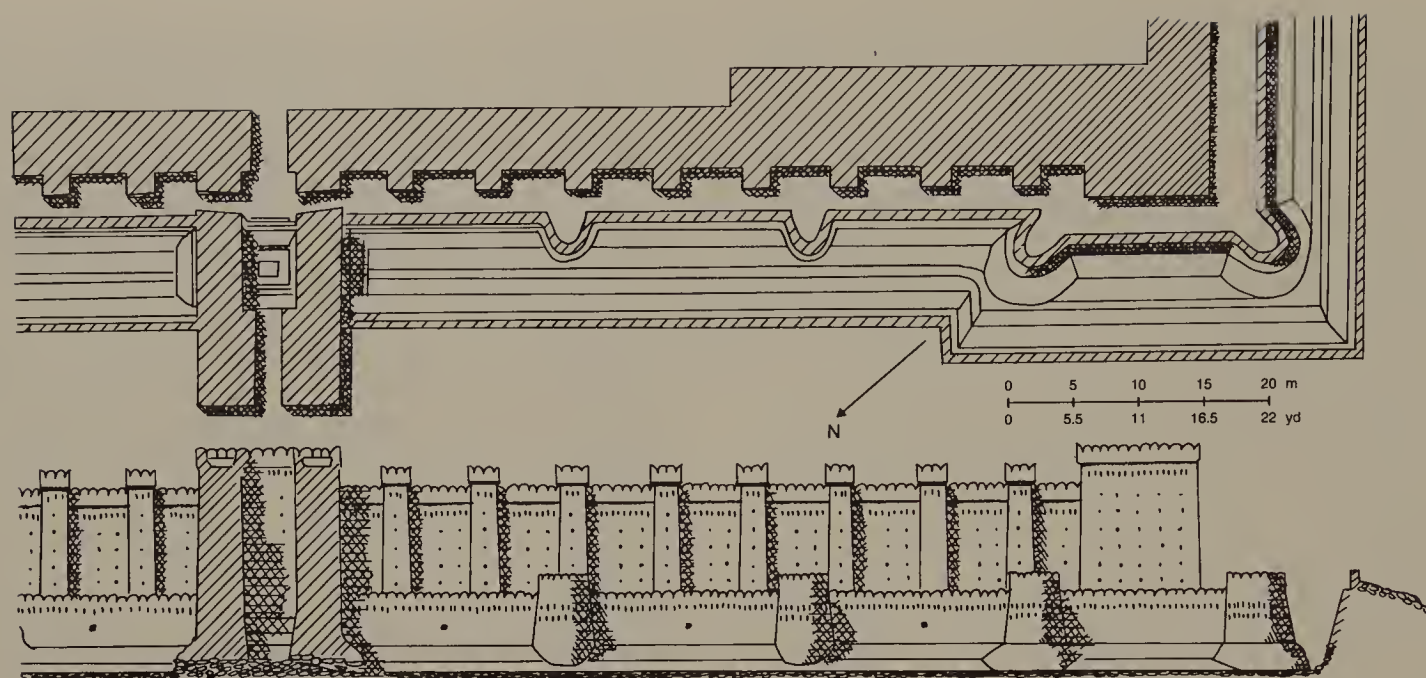


Fig. 4. Reconstruction drawing showing the plan and elevation of the center portion and southern half of an Egyptian Middle Kingdom fortress at Buhen, Nubia. EGYPT EXPLORATION SOCIETY, LONDON

Kingdom. Tell al-Retaba in Wadi Tumilat has one of the few city walls known: it reached a thickness of 9.5 meters (31 feet) during the time of Ramesses (Ramses) III.

Lacking an example of late New Kingdom city fortifications, we turn to the fortified enclosure of the mortuary temple of Ramesses III at Medinet Habu for illustration. A brick wall 10 to 11 meters (33 to 36 feet) thick and 17.2 meters (56 feet) high, with crenellations at its top and a 1.5-meter (5-foot) slanting socle, surrounded the sacred enclosure. In front of the wall was a moat, and in front of this was an outer wall 4.4 meters (14.4 feet) thick. Fortified gates led to the *temenos*. An inner wall, 6 meters (20 feet) thick and 15 meters (49 feet) high, with slanting socles, surrounded the temple proper. This design recalls the Middle Kingdom fortifications in Nubia, and thus it appears that there was a great deal of continuity in Egyptian military architecture throughout the second millennium.

Small citadels of the New Kingdom are known along the route from Egypt to Canaan through northern Sinai and the southern coastal plain of Palestine (Haruvit, Deir al-Balah, Tel Mor). These are small square citadels surrounded by a wall with shallow projections and entered through a fortified gate. Their shape fits the depictions of *Migdol* fortresses shown along the

same route in a wall relief from the time of Sety I at Karnak.

Egyptian techniques for conquering cities are known from both texts and wall reliefs. The reliefs show Egyptian soldiers with swords and arm shields storming city walls by climbing ladders, while others attack the city walls with axes. Archers shoot fire into the city. Defenders shoot arrows, use spears, and throw stones at the attackers. Siege operations are also depicted, including the cutting of trees around a city. The texts describe long sieges at Sharuhēn (possibly three years) and Megiddo (nine months). Egyptian documents mention that during Thutmose III's siege of Megiddo, a blockade wall was made of trees cut in the vicinity of the city (compare Deuteronomy 20:19–20, where the cutting of fruit trees for siege warfare is forbidden).

Mesopotamia

Very little is known about fortifications in second-millennium Mesopotamia. A most imposing fortification system is that of Asshur (modern Qalat Sharqat), the capital of the kingdom of Assyria on the upper Tigris. The city was built on a high promontory surrounded on two sides by cliffs descending to the Tigris and thus providing natural defense. Mighty fortifications

Conquest Through Deception

Even the most impressive array of fortifications is of no use, of course, if the enemy is unwittingly welcomed into the city with open arms. An Egyptian story describes the conquest of Jaffa by means of a trick: the Egyptian commander announced his surrender to the city and was allowed to enter Jaffa to bring in tribute. Large baskets containing soldiers and weapons were carried into the city by "tribute bearers"; both groups attacked the city once they were inside. This early version of the Trojan-horse story also recalls biblical narratives in which deception is utilized to conquer cities (the conquest of Ai by Joshua: Joshua 8:3–8).

And he had the two hundred baskets brought which he had made, and he had two hundred soldiers get down into them. And their arms were filled (with) bonds and fetters, and they were sealed up with seals. And they were given their sandals, as well as their carrying poles and staves. And they had every good soldier carrying them, totaling five hundred men. And they were told: "When you enter the city, you are to let out your companions and lay hold on all the people who are in the city and put them in bonds immediately."

And they went out to tell the charioteer of the Enemy of Joppa: "Thus speaks your lord: 'Go and tell

your mistress: "Rejoice, for Seth had given us Thoth (name of the general) along with his wife and his children! See the vanguard of their tribute." (You) shall tell her about these two hundred baskets,' " which were filled with men with fetters and bonds.

Then he went ahead of them to bring the good news to his mistress, saying: "We have captured Thoth!" And they opened the locks of the city before the soldiers. And they entered the city [and] let out their companions. And they laid hold [on the] city, small and great, and put them in bonds and fetters immediately. So the mighty arm of Pharaoh—life, prosperity, health!—captured the city.

In the night Thoth wrote to Egypt, to King Menkheper-Re—life, prosperity, health!—his lord, saying: "Rejoice, for Amon, your good father, has given you the Enemy of Joppa, along with all his people, as well as his city! Send men to take them away as plunder, so that you may fill the House of your father Amon-Re, King of the Gods, with male and female slaves, who are fallen under your feet forever and ever!"

It has come to a happy ending, (written) by the *ka* of a scribe skillful with his fingers, the Scribe of the Army, . . . (John A. Wilson, in Pritchard, ed., *Ancient Near Eastern Texts* [3rd ed. 1969], p. 23)

defended the other two sides of the city. They probably were established during the time of Shamshi-Adad I, in the Old Babylonian period (MB period); during the Middle Assyrian and Neo-Assyrian periods they were enlarged and rebuilt. To a massive outer wall established during the Old Babylonian period a moat twenty meters (twenty-two yards) wide was added in the thirteenth century BCE. At least eight gates were constructed in this wall during the ages.

Anatolia

Khattusha (Boğazköy), the capital of the Hittite kingdom, is one of the best examples of second-millennium city fortifications in the ancient Near East. The city developed gradually from the seventeenth century BCE until the peak of its growth in the fourteenth and thirteenth centuries BCE, when it reached an area of 165 hectares (408 acres). In the early phase (sixteenth century)

only the acropolis (Büyükkale) and the northern part of the city were fortified. The city wall of this period, 2 kilometers (1.2 miles) long and 8 meters (26 feet) thick, was built with compartments (filled-in casemates), including an outer wall (3 meters [10 feet] thick) and an inner wall (2.7 meters [8.9 feet] thick). It stood on a 50-meter (160-foot) thick artificial rampart that had an outer glacis, recalling those of MB Syria-Palestine. Six stone posterns were on the southern side of the rampart. Such posterns are typical of Anatolian military architecture: they gave access to and from the city in times of peace, and in times of war they enabled surprise attacks on the enemy from inside the city while being easily defended against invaders.

During the time of the Hittite Empire (fourteenth and thirteenth centuries BCE) Khattusha was extended to higher ground south of Büyükkale. The new quarter was surrounded by an impressive fortification system: a ramp with gla-

cis on which was a city wall four kilometers (2.4 miles) long, with a casemate more than four meters (4.4 yards) thick and massive square towers built thirty meters (thirty-three yards) apart. A wall one meter (1.1 yards) thick, with square bastions, stood in front of certain sections of the main wall. Five gates led into the city from the western side, and two more were on the southern and eastern sides of the city. Each of the main gates was defended by two flanking towers divided into four to six rooms; the passage was through a guard chamber created by four pilasters. The entrances were probably parabolic arches created by carved monolithic stones. Heavy wooden doors coated with bronze were locked from inside the guard chamber by heavy horizontal beams. The approach to the gates was by a ramp parallel to the city wall, thus forcing the enemy to expose their right, unprotected side to the city wall. At the southern end of the city, where the topography necessitated strengthened fortifications, a huge rampart was constructed with a moat in front of it. The outer side of the rampart was covered with stonework, and on top stood one of the gates, decorated with sphinxes carved in relief. A postern 71 meters (233 feet) long or sally-port crossed the lower part of the rampart.

THE IRON AGE

Israel in the Twelfth Through Tenth Centuries BCE

Very little is known about fortifications during the time span between the end of the Bronze Age and the rise of Assyrian power in the ninth century BCE. Extensive excavations in Israel have, however, filled in the gap to some degree. The main Philistine cities of Ekron, Ashkelon, and possibly Ashdod were fortified by massive mud-brick walls and towers during Iron Age I (twelfth to eleventh centuries BCE). At Ashdod, a city gate with two towers and four chambers was erected at the end of the period.

During the time of Solomon (second half of the tenth century BCE) the rather small Israelite cities were usually well fortified by walls. Casemate walls were common in this period: these are double walls with storage rooms between

them. At Megiddo, Gezer, and Hazor, all mentioned in the Bible as having been built by Solomon, gate houses of similar type were found: they are known as “six chamber” gates, having eight piers that created six guard chambers. This type of gate house, found in other Iron Age cities in Israel, is unique to the country.

These fortifications in Israel predate the Assyrian expansion and thus must have been constructed in the framework of the rivalry between various political and ethnic groups in the country (Philistines, Israelites, the Transjordanian nations) and their close neighbors (Phoenicians, Arameans, desert nomads).

Mesopotamia

From the early ninth century BCE until the end of the Iron Age, the imperialistic expansion of Assyria and Babylonia dictated the development of warfare methods and fortifications.

In Mesopotamia itself, information on the fortifications of the capitals of Assyria and of Babylon is gained mainly from old and insufficiently documented excavations. The capitals of Assyria—Nimrud (Kalkhu, biblical Calah), Dur-Sharrukin (modern Khorsabad), and Nineveh (Tell Kuyunjik, Nebi Yunus)—were huge cities with immense fortifications that fit their status as capitals of a military empire. Each of these cities contained a large palace as well as a citadel that was the military stronghold in the capital. At the old capital, Asshur, Sennacherib added a front wall to the wall-and-moat system of the second millennium. The final result provided an immense fortification system. At Khorsabad, Sargon II's new city, Dur-Sharrukin, was established on flat terrain that demanded the erection of strong fortifications (fig. 5). The well-planned rectangular city encompassed 300 hectares (740 acres). This huge area was encircled by a mud-brick wall 28 meters (92 feet) thick, built in straight lines and defended by about 150 square towers. The great thickness of the wall was intended to withstand battering rams, which could easily approach the city across the surrounding flat terrain. Seven gates led into the city (in Sargon's inscription eight are mentioned). The palace area at the north side of the city was defended by an independent fortification system with 36 towers and two gates. Nineveh, the last and largest Assyrian

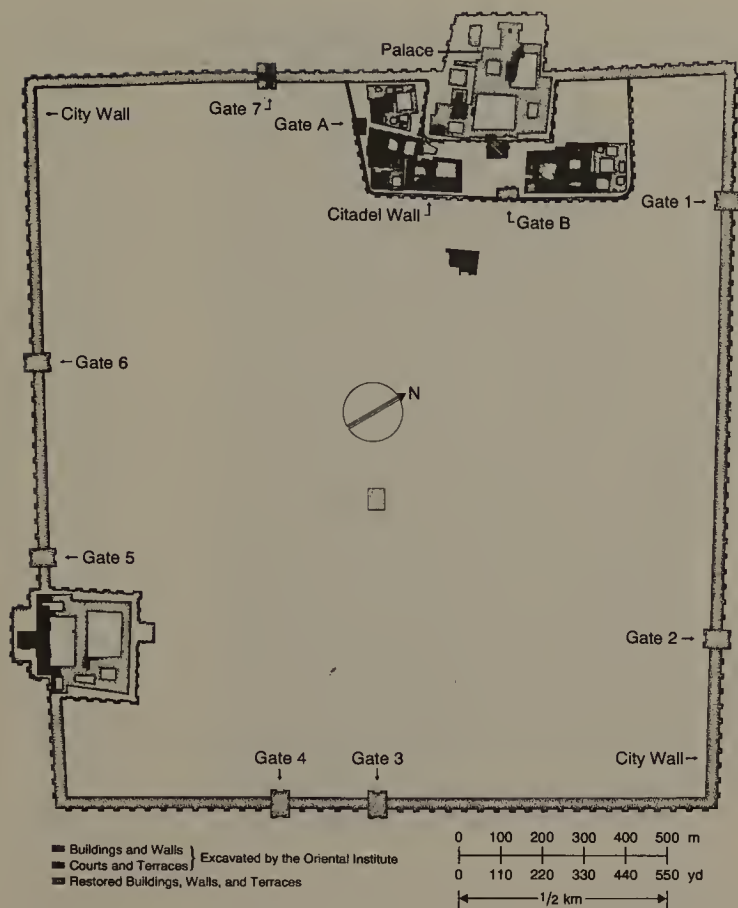


Fig. 5. Plan and reconstruction of Khorsabad (Dur-Sharrukin), the 300-hectare (750-acre) capital constructed by Sargon II circa 722–705 BCE. The well-planned, square city was surrounded by a massive city wall with towers and seven gates. The king's palace was in a separate, fortified enclosure. It was excavated by the Oriental Institute of the University of Chicago (1928–1935). ADAPTED FROM DRAWING PROVIDED BY ORIENTAL INSTITUTE, UNIVERSITY OF CHICAGO

capital, reached an area of 720 hectares (1,780 acres); its outer wall was 12 kilometers (7.5 miles) long, and there were 16 gates leading to the city.

Following the decline of Assyria, the Babylonian kings Nabopolassar and Nebuchadnezzar (Nebuchadrezzar) turned Babylon into the mightiest of all cities in the ancient Near East. The enormous 850-hectare (2,100-acre) city stretched on both sides of the Euphrates; its eastern part was defended by a fortification system, 8 kilometers (5 miles) long, that included three walls and a moat. The inner wall of the three, constructed of sun-dried bricks, was 7 meters (23 feet) thick and had projecting towers; the middle one was of the same width but constructed of baked bricks; and the outer one, 3 meters (10

feet) thick, also constructed of baked bricks, served as the scarp of a moat almost 100 meters (330 feet) wide. Herodotus mentions a road along the fortifications that permitted a four-horse chariot to turn around: he probably refers to a road in the 12-meter (39-foot) break between the inner and middle walls. As at Khorsabad, the inner city of Babylon had its own fortification system similar to the outer one: two walls, an inner one 6.5 meters (21 feet) thick and an outer one 4.5 meters (15 feet) thick, both built of sun-dried bricks, were separated by a military road 7 meters (23 feet) wide. Outside these walls was a moat 50 meters (160 feet) wide, filled with water from the Euphrates as described in Nebuchadnezzar's building inscription. The marvelous Ish-tar Gate (fig. 6), decorated with reliefs made from glazed, colored tiles, led through the northern line of this system. In the northwest corner of the inner city, along the bank of the river near the palace of Nebuchadnezzar, an enormous citadel with walls 25 meters (82 feet) thick was constructed. Nabonidus added a fortification wall along the bank of the Euphrates, providing the eastern side of Babylon with a fortification line 12 to 13 kilometers (7.5 to 8.1 miles) long.

Assyrian Siege Techniques

The techniques utilized by the Assyrian army to conquer cities during the two centuries of Assyrian expansion are known from both texts and numerous reliefs (see fig. 7). The long siege of a city resulted in starvation and lack of water for the population. (The siege of Samaria, the capital of the northern kingdom of Israel, lasted three years.) The starvation effects of long siege are vividly illustrated in biblical texts (for example, 2 Kings 6:25, 28–29, in relation to the Aramean siege of Samaria). The city walls were stormed by breaching them with battering rams, climbing over them with ladders, breaking through them by using axes and spears while the attackers are protected by heavy shields, or undermining the walls by digging tunnels supported by wooden beams, which were then set on fire, causing the collapse of the wall. The city gates were a natural target for direct attacks, as can be seen in the reliefs. Deception and psychological warfare were also utilized, as can be



Fig. 6. Ishtar Gate at Babylon, circa sixth century BCE. Situated along the Processional Way leading to the Temple of Marduk, the blue-tiled gate has molded bricks decorated with golden images of bulls and dragons to represent Adad and Marduk, respectively. STATE MUSEUM, BERLIN



Fig. 7. Relief from Sargon's palace at Khorsabad of the Assyrian siege of Pazashi. A. H. LAYARD, *THE MONUMENTS OF NINEVEH* (1849)

The Conquest of Lachish by Sennacherib

The conquest of the city of Lachish in the kingdom of Judah by Sennacherib in 701 BCE is a unique case of multiple documentation: it is described in both biblical and Assyrian texts, it is shown in the most detailed Assyrian relief relating to a single battle, and it was revealed in important archaeological finds at the site.

Lachish is the only site where an Assyrian siege ramp was actually discovered. It was constructed from an estimated twenty-five thousand tons of stones dumped on a shallow saddle separating the southwest corner of the city from the hills around it. The location was ideal in terms of topography, as the siege ramp was pointed against a corner of the city walls, where the defenders were left with only a short defense line, and thus could only exploit a small part of their power. Israel Eph'al has shown how, by choosing this point, the Assyrians utilized the principle, defined by Karl von Clausewitz, of "attack in the small dimension," which enabled an attacking force to overcome the defenders' topographic superiority. The Assyrians defended the ramp and the battering rams with units of archers behind whom were slingers (whose fire range

was longer than that of the archers) operating from a safe distance. Further away, on an overlooking hill, Sennacherib erected a fortified camp that served as his headquarters. The defenders tried to stop work on the ramp by shooting arrows and sling stones, and by throwing heavy stones and objects from the city walls. They also attempted to neutralize the effect of the siege ramp and battering rams by hastily constructing a counterramp of huge quantities of earth and gravel. This ramp was higher than the city walls and was probably intended to stop the invading Assyrians behind the breached wall, as well as to provide a convenient fire base for the defenders. It was suggested that the biblical expression "standing in the breach" (*la'amōd bappereš*; Ezekiel 22:30; Psalms 106:23) refers to such an operation. Nevertheless, the Assyrians succeeded in breaching the walls of Lachish and set the city on fire. Their failure to conquer Jerusalem probably dictated the commemoration of the conquest of Lachish in a huge relief, located in the most central room of Sennacherib's palace in Nineveh.

learned from the speech of Rabshakeh, Sennacherib's messenger, to the people of Jerusalem in which he tried to discourage them into surrender (2 Kings 18:19–37).

Siege ramps were constructed in order to bring battering rams to the foot of the city wall, which in many cases was on the upper part of a steep hill or mound. Constructing the ramp and operating the ram under the defender's fire were both dangerous and technically difficult. Thousands of tons of earth and gravel were moved and brought to the site to construct the ramp, and the top of the ramp was coated with mortar or wood beams. Prisoners of war were probably utilized in the dangerous work of constructing the ramps below the city walls.

The battering rams, invented during the MB period, gained special importance in Assyrian warfare. They included a wood and leather frame in which the wooden beam with its metal end was suspended from ropes or chains, and could be operated against the city wall. The rams had wheels on which they were brought to the battlefield and dragged up the siege ramps. Several rams were operated together against the city

wall at one point; they were defended by covering fire of arrows and sling stones. The defenders tried to attack the battering rams with fire torches and heavy stones thrown from the city walls, and metal chains to catch the ram's beam. Assyrian soldiers are seen in the reliefs pouring water on the wooden rams to protect them from fire and hanging onto the enemy's chains to keep the main beam from being caught. The battering rams changed between the time of Assurnasirpal and that of Esarhaddon. Those of the time of Assurnasirpal were heavy machines, with six wheels and a round-topped turret that held the operator of the ram and served as a position for warriors. Shalmaneser III's battering rams had a low profile and missile-shaped body. The rams of the eighth century had a lighter structure, and four wheels, and were high enough to suspend the beams on ropes or chains. Sometimes they had two beams.

The Assyrian siege techniques were inherited by the Babylonians. The biblical account of the fall of Jerusalem reflects these operations: cutting trees around the city and building a ramp toward the city wall (Jeremiah 6:6; 32:24).

Iron Age Fortifications in Anatolia, Syria, and Palestine

The Assyrian threat, as well as rivalry between neighboring kingdoms, resulted in the establishment of strong fortifications in almost all cities of the ancient Near East during the ninth and eighth centuries BCE. In the kingdom of Urartu (discussed in a separate chapter in Part 5, Vol. II) in eastern Anatolia, a chain of strong citadels was erected; one of the better preserved, though exceptional in form, is Hasanlu, in northwestern Iran, southwest of Lake Urmia: the round site, about 200 meters (660 feet) in diameter, was surrounded during the eighth and seventh centuries by a massive wall fortified with thirteen square towers.

In the Neo-Hittite, Aramean, and Israelite cities of southern Anatolia, Syria, and Palestine, massive fortifications were erected. Their homogeneity is demonstrated in the form of city gates:

four-chamber or two-chamber gates of similar plan appear in many cities throughout the region, from Sam'al (Zincirli [pronounced Zinjirli]) and Malatya (ancient Arslantepe, Melid, Melitene) in southern Anatolia to Beersheba in southern Palestine (see fig. 8). Solid city walls with towers and bastions surrounded the cities, and in some cities there were inner fortifications around the administrative and governmental areas, as at Sam'al, Samaria (where the acropolis was surrounded by a fortification system), and Lachish (where the city was divided by a massive wall). Earth and stone ramparts and glacis were observed in several of the cities in Palestine where the terrain required such works. The shape of the upper part of the walls is known from numerous Assyrian depictions: they had rectangular, stepped, or triangular crenellations, and often had protruding wooden balconies that enabled warriors to dominate the "dead area" at the bottom of the wall.



Fig. 8. City plan of Sam'al (Zincirli), ninth to eighth centuries BCE. The site, which was enclosed by a perfectly circular wall, contained a fortified citadel with two palaces modeled on the Syro-Hittite architectural form, a *bit hilani*. The *hilani* structure consisted of a suite of reception rooms containing a rectangular throne room, a portico, and storerooms.

In several Israelite cities impressive underground tunnels and shafts were cut in order to supply water in time of siege. They can be regarded as part of the defense system of these cities.

The large number of fortifications excavated in Syria/Palestine enables a typological discussion. Yigael Yadin has suggested that casemate walls were typical until the tenth century BCE, and solid walls were constructed from the ninth century BCE on, in order to withstand the Assyrian siege techniques. Like many other rules, this one has exceptions; but almost every important city in the region had a solid wall in this period, while only few peripheral cities in Judah continued to be surrounded by casemate walls later than the tenth century BCE.

One of the best examples of the solid walls in that period is the city wall of Jerusalem, constructed most probably by Hezekiah just before the attack on Judah by Sennacherib in 701 BCE. This massive stone wall is 7 meters (23 feet) thick and perhaps was 7 to 8 meters (23 to 26 feet) high. Indeed, Jerusalem is one of the few cities in the entire Near East that stood against the Assyrian army, though it failed to stand against the Babylonian army in 586 BCE.

CONCLUSION

The story of fortification and warfare in cities of the ancient Near East, and that of warfare on the battlefield, are chapters in the unfinished story of human warfare. As in our own age, so in the ancient Near East, a major part of human societies' common efforts were in the realm of warfare. The everlasting race between better methods of attack and improved methods of defense was still slow in the thousands of years reviewed here. The basic methods of conquering and defending cities developed only to some degree during this period. The fortifications of cities developed mainly in their dimensions, rather than in their devices, during this period.

BIBLIOGRAPHY

ALEXANDER BADAWY, *History of Egyptian Architecture*, 3 vols. (1954–1968), the basic textbook on Egyptian architecture; KURT BITTEL, *Hattusha, the Capital of the Hittites* (1970), an account of the history and excavations in the capital of the Hittites; ISRAEL EPH'AL, "On Warfare and Military Control in the Ancient Near Eastern Empires: A Research Outline," in *History, Historiography and Interpretation*, edited by H. TADMOR and M. WEINFELD (1983); and "The Assyrian Siege Ramp at Lachish: Military and Lexical Aspects," *Tel Aviv* 11 (1984); W. B. EMERY, H. S. SMITH, ET AL., *The Fortress of Buhen*, 2 vols. (1974–1979), the final publication of the best-preserved Egyptian Middle Kingdom fortress; HENRI FRANKFORT, *The Art and Architecture of the Ancient Orient* (1954), the basic textbook on the art and architecture of the ancient Near East; ZEEV HERZOG, *Das Stadttor in Israel und in den Nachbarländer* (1986), a comprehensive discussion of the development of city gates in Palestine and Syria; AHARON KEMPINSKI and RONNY REICH, eds., *The Architecture of Ancient Israel* (1992), summary articles on the architecture of ancient Palestine (in Hebrew); A. W. LAWRENCE, "Ancient Egyptian Fortifications," *Journal of Egyptian Archaeology* 51 (1965), a useful survey of its subject; GORDON LOUD, *Khorsabad*, vol. 1 (1936); GORDON LOUD and CHARLES B. ALTMAN, *Khorsabad*, vol. 2 (1938); RUDOLF NAUMANN, *Architektur Kleinasiens von ihren Anfängen bis zum Ende der hethitischen Zeit* (2nd, enl. ed. 1971), a textbook on the architecture of ancient Anatolia and Syria; DAVID O'CONNOR, "New Funerary Enclosures (Talbezirke) of the Early Dynastic Period at Abydos," *Journal of the American Research Center in Egypt* 26 (1989); DAVID USSISHKIN, *The Conquest of Lachish by Sennacherib* (1982), a synthesis of biblical, Assyrian, and archaeological sources relating to the conquest of Lachish by Sennacherib; ROLAND DE VAUX, *Ancient Israel: Its Life and Institutions*, translated by JOHN MCHUGH (1961), a discussion of warfare in ancient Israel according to the biblical sources; GEORGE R. H. WRIGHT, *Ancient Building in South Syria and Palestine* (1985), a discussion of architecture in ancient Palestine and Syria; and YIGAEEL YADIN, *The Art of Warfare in Biblical Lands*, 2 vols. (1963), a general book on warfare in the ancient Near East, with many illustrations.

SEE ALSO *Military Organization in Pharaonic Egypt* (Part 4, Vol. I); *Ancient Mesopotamian Military Organization* (Part 4, Vol. I); *Hittite Military Organization* (Part 4, Vol. I); and *Troy: Legend and Reality* (Part 5, Vol. II).

Material, Technology, and Techniques in Artistic Production

ANN C. GUNTER

THE MATERIALS, techniques, and technologies available to ancient near eastern artisans and the organization of those artisans in workshops or other institutions are understood largely through the study of ancient texts written for administrative or religious purposes and through the examination of artifacts themselves. Archaeological remains of workshops and other activity sites provide additional information. We have also learned much from ancient illustrations of craft or industry and its personnel. These representations are mostly tomb paintings and models made of wood, which are preserved in quantity only from Egypt. Many of these technologies are of extraordinary historical significance, since they were created, developed, and often perfected in the ancient Near East.

Artisans obtained their materials from natural substances available within the Near East—used in their native form or transformed through heating or other means—and from substances acquired from distant sources by trade or tribute. They also reused finished objects made of materials of great intrinsic value, such as metal, or those costly to transport and work, such as good building stone. Artisans created new substances—glass, for example—by experimenting with locally available raw materials. Regional differences in

materials, technologies, and traditions resulted naturally from the diversity of environment and culture within the Near East. Along the major river valleys of the Tigris and Euphrates, natural resources for construction or for fashioning works of art consisted primarily of abundant quantities of clay and reeds. Gypsum and alabaster, stones suitable for building or carving sculptures, existed in northern Mesopotamia. Egypt's Nile Valley furnished clay, reeds, and other plants; its mountains were sources of many good-quality hard stones, chiefly limestone, sandstone, granite, quartzite, and a number of hard, dark stones. Sources of ores, including gold, silver, copper, and iron, as well as certain varieties of stone, were available in the mountainous regions of Anatolia, western Iran, and Egypt. Ivory, a luxury material employed for furniture, inlays, and cosmetic items, came from elephant and hippopotamus hunted in Egypt and western Asia or was traded from more distant regions.

Artisans also employed prized materials imported by sea or by land, often over considerable distances. Diorite, a hard stone sometimes preferred in Mesopotamia for large-scale sculptures, was brought from islands in the Persian Gulf or from coastal ports along the shores of the

Indian Ocean. Lapis lazuli, a gemstone favored for jewelry and decorative inlays, may have been obtained via overland routes from present-day Afghanistan.

Levels of technology were not everywhere the same, nor were they uniformly accessible to all social classes. Sophisticated metalwork or building in stone, for example, involved significant costs in materials, labor, or transportation and thus remained technologies largely confined to temple or state economies that controlled substantial resources. In general, however, the spread of new craft technologies seems to have been fairly uniform throughout the Near East, at least at comparable levels of state and society. Thus, with some exceptions, the history of technologies and techniques of production can be described for the region as a whole.

Technologies that shaped and released artistic energies drew upon broader developments in economy and society. The domestication of animals, cultivation of plants, and invention of metallurgy accelerated the supply of materials for works of art as well as the development of techniques for fashioning or decorating them. Plant or mineral pigments for coloring dyes or paint, linen or wool for weaving fabrics, and metal tools for carving stone or wood in turn allowed new opportunities for craft production and artistic expression. Pyrotechnology, the application of heat in manipulating the properties of materials, made possible the production of good-quality ceramic objects fired at high temperatures, the development of metallurgy, and the creation of new materials, primarily faience (the common term for glazed sintered quartz) and glass. Writing, a dramatic innovation in communications technology that took place in Mesopotamia late in the fourth millennium BCE and a little later in Egypt, facilitated a standardized vocabulary for names of designs and shapes, the recording of measurements or processes, and other means of communication among artisans and their patrons.

THE ORGANIZATION OF PRODUCTION

The production of arts and crafts was organized on different scales. Simple crafts that relied on

locally available and relatively inexpensive materials or equipment could be carried out as cottage industries. Pottery vessels of utilitarian type were often manufactured and distributed on such a local village or household level. In some periods, a capital or regional center functioned as the principal place of manufacture for an entire industry, such as textile manufacture or leatherworking. The city of Isin (Ishan Bahriyat) in southern Mesopotamia, for example, was an important center for leatherworking in the early second millennium. Major centers of production employing highly trained, professional artisans were mostly operated by the temples and palaces, which were the principal patrons of architecture, arts, and crafts. State-sponsored projects not only created trendsetting styles but also pioneered developments in materials and techniques of manufacture, established workshop procedures, and set standards for judging craft production that were emulated in the private domain.

The creation of influential styles of art and architecture was probably accomplished by a relatively small group of artisans working under state and temple patronage. Advanced construction in stone, for example, was a complicated and expensive undertaking that called for considerable specialized knowledge. Similarly, sophisticated work in sculpture, painting, fine pottery, or jewelry was concentrated in the capitals and other important centers, places that provided opportunities for developing artisan traditions and experimenting with new solutions.

The number of trained artisans must always have been comparatively limited, and those individuals were certainly transferred from one court workshop or construction site to another. When artisans moved from place to place, they brought with them their practices and often their tools. New ideas thus spread rapidly over an entire region, often resulting in a homogeneity of production techniques.

Ancient texts recording the disbursement of materials or payment to craft personnel, as well as representations depicting artisans at work, provide some information on the organization of labor and the appearance of workshops. Large state and temple enterprises often controlled the supply of materials and tools for particular projects. Archaeologists have only occasionally uncovered remains of workshops, a fact that may

reflect inadequate excavation; but it may also suggest that few industries required elaborate or large-scale installations. Important evidence for artisans' workshops has been found at the royal city of Amarna in Egypt, which was occupied in the fourteenth century only during the reigns of the pharaohs Amenhotep IV (Akhenaten) through Tutankhaten (Tutankhamun). A glassmaker's workshop excavated there contained raw materials, molds, and waste heaps; remains of a sculptors' atelier yielded copper chisels, stone bits from drills, models, plaster casts, inlays, and unfinished statues. (See "Akhetaten: A Portrait in Art of an Ancient Egyptian Capital" in Part 5, Vol. II.) These Egyptian workshops probably had counterparts in other areas of the Near East.

TECHNOLOGY AND CREATIVITY

Challenged and influenced by the technologies at their disposal, artisans developed images, designs, and styles in response to social and cultural needs. While relatively little is known about the commissioning and design of works of art or architecture, state projects must have involved the approval, and perhaps often the participation, of the ruler himself.

State or temple projects typically required a number of artisans, and once a design was approved, two- or three-dimensional models of the image to be reproduced were created. Examples of sculptors' models have been preserved in Egypt from the Old Kingdom onward (circa 2675–2130). Three-dimensional stone models might have been used to create molds for making clay or plaster sculptures. From the Middle Kingdom onward (circa 1980–1630), painting and relief carving made use of two-dimensional models equipped with a grid, which served both as a technical aid for the artisan and as a method of training artisans in particular styles of representation. Paintings and reliefs left unfinished, or those on which the paint has worn thin, sometimes preserve such a grid drawn in red paint (fig. 1). The grid was employed to help place figures correctly in the scene, as an aid in transferring a figure from small to large scale, and as a guide to establishing the correct proportion of a figure in preliminary outline.

Clay objects with molded or incised images, which may have served as models or sketches in the preparation of large-scale relief sculptures, have been found in excavations in Mesopotamia (fig. 2). Artisans throughout the Near East may also have relied on copybooks containing patterns for illustration. Thus, by the use of such devices as grids and models, a team of artisans engaged in the painting or carving of extensive scenes or vast numbers of figures could achieve a unity of style despite individual differences in training or execution.

The evolution of technology influenced artistic creativity and production in a variety of ways. The development of speedier or more standardized methods of shaping and finishing objects led to new modes of production. The invention of a pivoted turntable for shaping pottery vessels, or of molds for weapons, tools, and plaques, permitted a uniformity of shape, decoration, and style. These inventions opened up the possibility of producing identical objects in greater quantities and distributing them more widely. Technologies not only modified the manner or rate of production, but engendered new crafts as well. They expanded the potential for new artistic categories, with aesthetic consequences. For example, the invention of metal tools made possible the craft of fine wood carving; the discovery of the coloring properties of various minerals produced pigments for paints and dyes for textiles.

Technology also led to the creation of entirely new materials with unique properties for shaping or decorating. In the ancient Near East, the most important of these was metal. The special properties of metal enabled artisans to create shapes and styles of decoration that could not be achieved using the medium of clay, and the greater intrinsic value of metal contributed to its rapid adoption as a prized material. Metalwork seems to have influenced the production of pottery already in the third millennium. Clay pots decorated with colored slips and highly burnished surfaces sought to imitate the gleaming, reflective appearance of vessels made of copper, silver, or gold.

Artisans also affected the history of art and technology by creating new materials often intended—at least initially—as less expensive substitutes for rare or precious substances. Glazes, and later glass, permitted artisans to reproduce

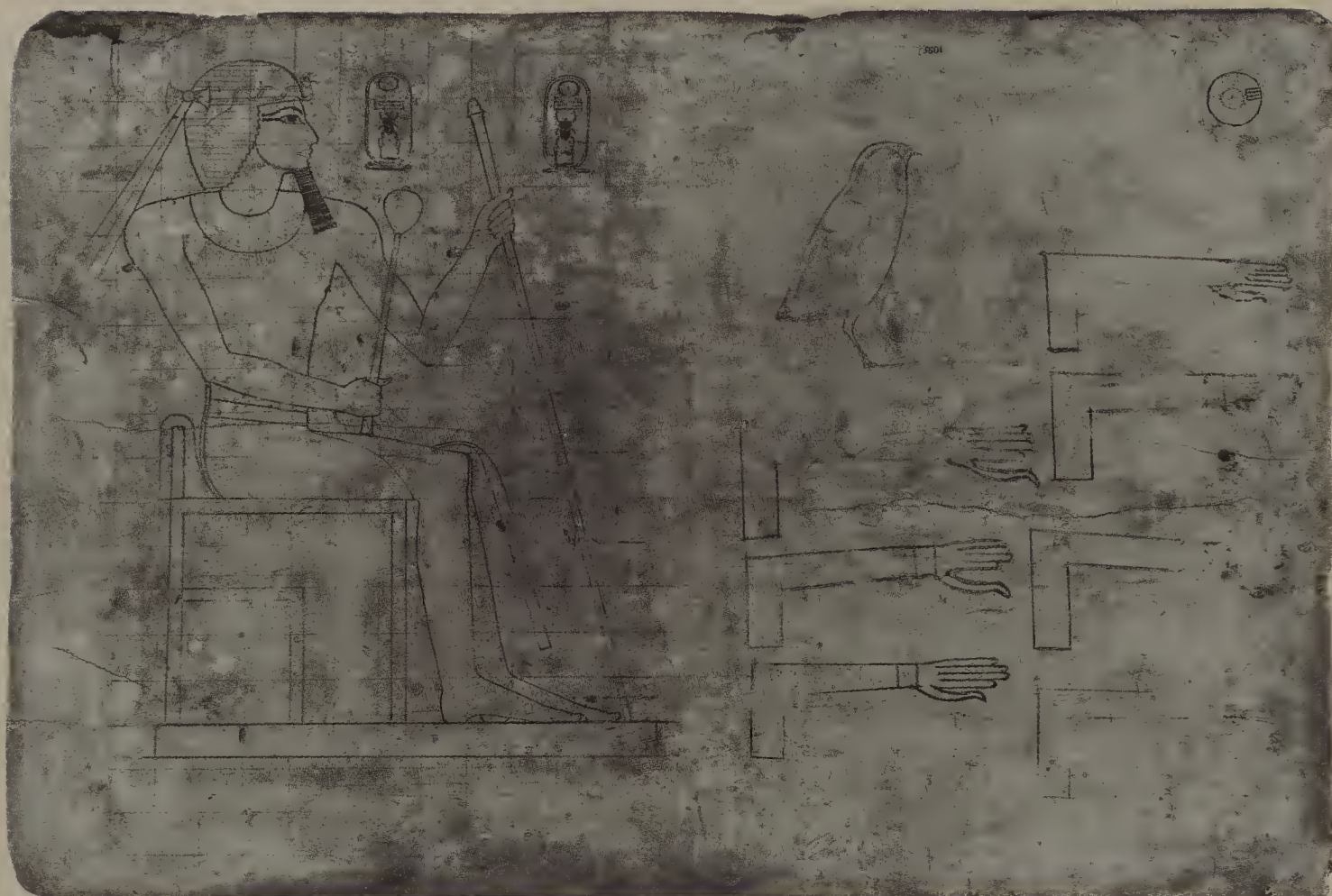


Fig. 1. A writing board of wood, Eighteenth Dynasty, probably from Thebes. The board is covered with gesso and has a grid marked out in red paint that the scribes used to draw human figures according to a system of proportions. An artisan has sketched a figure of King Thutmose III and a hieroglyph of a quail chick; he has also practiced drawing arms. BRITISH MUSEUM, LONDON

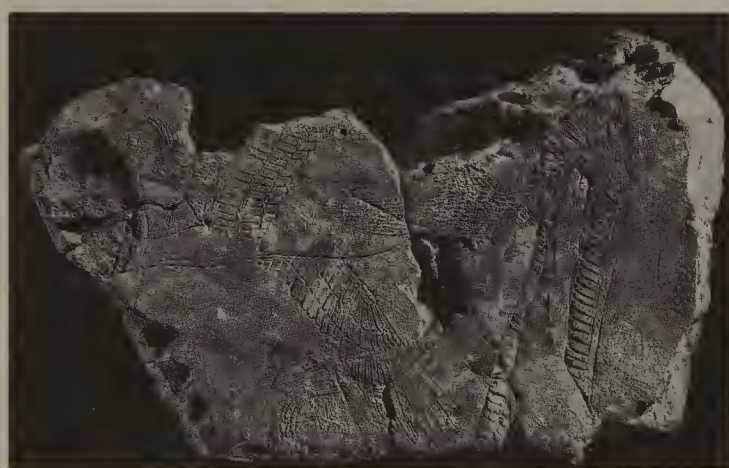


Fig. 2. Neo-Babylonian clay sherd incised with a drawing, which was perhaps used as a model, recovered from Nippur. THE UNIVERSITY MUSEUM OF ARCHAEOLOGY AND ANTHROPOLOGY, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA

the blue and green colors of gemstones, especially lapis lazuli and turquoise, by coating commoner dark or dull-colored stones or faience, or by substituting a new material. Clear, translucent glass was made at least by the time of the Egyptian Eighteenth Dynasty (circa 1539–1292), but its widespread manufacture emerged only in the first millennium, in imitation of cut stones such as rock crystal.

Technological achievements also interacted with political and social developments to produce new artistic media, styles, or aesthetic goals. In Egypt, the invention of methods of quarrying and working hard stone made that material available in quantities sufficient for monumental constructions. But another factor in the development of monumental stone architecture was the impulse to create something more durable than

the traditional mud-brick. Thus, political and social changes and individual ambition must also be examined to help explain how the enormous resources needed for quarrying, cutting, transporting, and carving stone, which required a highly trained and specialized group of workers, were mobilized along with a technological advance.

Social interaction among artisans, and the introduction of foreign crafts or personnel, also contributed to artistic creation. Egyptian influence in the art of Syria, or Egyptian, Lydian, and Ionian influence in the art of Achaemenid Iran, resulted not merely in copies or imitations, but also in the creation of wholly new styles or aesthetic approaches. Many objects, especially luxury items, combined an assortment of materials, often stone, wood, metal, ivory, and glass. The manufacture of these objects would have involved the collaboration of artisans trained in different media. Such exposure to other materials and techniques probably also stimulated the creation of new styles or forms of artistic expression.

STONE

Already in Neolithic times, small-scale objects, such as statuettes and vessels, were carved from hard stones with the aid of stone tools and smoothed with a simple abrasive such as sand. These stones were obtained from blocks that had become detached from cliffs or from boulders found in dry water courses. The quarrying of hard stones, also carried out with stone tools, made it possible to employ stone on a large scale for building purposes. Stone was naturally quarried as close as possible to the construction site, although materials could be brought from a distance via river transport. Stones were extracted in open or covered quarries, where trenches were cut or pounded down around the sides of the block to be detached. After extraction, the blocks were cut roughly to the desired shape in order to facilitate handling and transportation.

In Egypt, limestone and sandstone were the preferred stones for building, followed by granite, quartzite, and basalt. During the Old and Middle kingdoms, monumental constructions

frequently reserved high-quality limestone or granite for the visible parts of buildings. These stones covered a core made of poorer-quality stone available from a number of sources. Beginning in the New Kingdom (circa 1539–1075), sandstone was generally used in the southern part of the Nile Valley for both core masonry and casing. In other areas of the Near East, where stone construction was limited, the lower parts of mud-brick or rubble walls were sometimes covered with orthostats, or thin slabs of good-quality stone.

Transporting the stone to the construction site was accomplished by boats, wooden rollers, sledges, and ropes, and probably also by various draft animals such as oxen and donkeys. At the construction site, ramps made of wood, earth, and bricks were used to build walls or to erect colossal statues or obelisks. Blocks or sculptures were also moved with the aid of human labor (fig. 3). They varied enormously in size and weight, from stones small enough to be carried by two laborers to colossal statues estimated at 1,000 short tons.

Massive building projects required both pure laborers, that is, unskilled workers who quarried and moved stone and earth, and skilled laborers, such as stonemasons or woodworkers, who were specially trained and probably few in number. In Egypt and in Achaemenid Iran, stonemasons' or sculptors' marks are sometimes preserved on worked blocks or on the background of carved reliefs. The marks indicate that stonecarving was organized and carried out by teams of artisans probably working under a master mason or stonecarver.

The contents of the stonemason's toolkit probably remained much the same throughout early historical times in the Near East. Hard stones were quarried and shaped with pounders and grinders made of even harder stone, such as dolerite. At first made of stone or copper alloy—and later, after about 1200, of iron—picks and points were employed to free and roughly shape softer limestones and sandstones. Finer cutting and shaping, including the carving of relief decoration, was accomplished with hammers, chisels, and droves. Fine details and inscriptions were worked with drills fitted with stone bits, using sand as a medium. The final stages of polishing were achieved with quartzite, sandstone, or

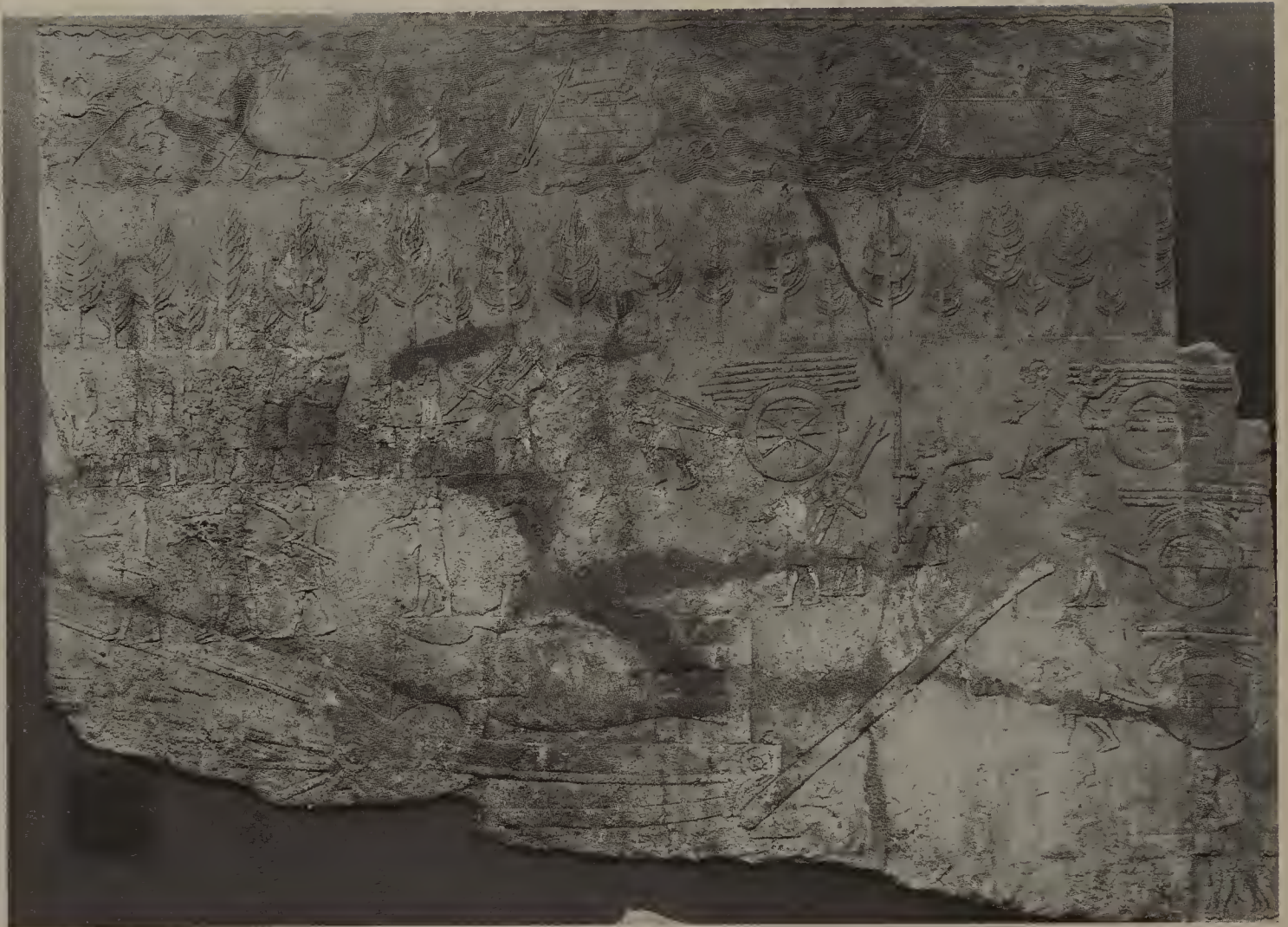


Fig. 3. Assyrian relief showing the movement of a colossal stone sculpture by lever. The scene was recovered from the Neo-Assyrian palace of Sennacherib at Nineveh. BRITISH MUSEUM, LONDON

other grained materials, together with quartzite sand or emery.

Finished sculptures, both relief carvings and statuary in the round, were very often painted to make them appear more lifelike. For the same reason, eyes were frequently inlaid with other materials, such as shell and lapis lazuli, set in bitumen.

Gemstones, including agate, carnelian, lapis lazuli, quartz, and turquoise, were in demand for making small objects, for use in inlays, and in conjunction with other materials for sculpture or jewelry. Objects fashioned entirely from these stones, such as beads or cylinder seals, were perforated by means of a bow drill fitted with a stone bit.

CLAY

Found in abundance in the river valleys of the Near East, clay was from earliest times a significant material throughout the region. River silt or mud containing clay, mixed with chopped straw or animal dung and shaped by wooden molds into rectangular bricks, was regularly employed for ordinary dwellings. In Mesopotamia, where stone and timber suitable for building were scarce, mud-brick was also used extensively in the construction of large-scale architecture, including palaces and temples. The outer casing of mud-brick structures was occasionally made of kiln-fired bricks to provide additional resistance to weathering, but normally bricks

were sun-dried. Bitumen, a natural mixture of crude petroleum, mineral wax, and impurities, was collected as seepage from geological deposits and used to coat floors, drains, and other surfaces where waterproofing was desirable. (See “Palaces and Temples in Ancient Mesopotamia” in Part 4, Vol. I.)

Pottery, ware made from fired clay, is one of the oldest craft technologies in the Near East. Invented in western Iran around 8000, pottery also developed as a vehicle for painted or incised designs and figural representations, and hence as an artistic medium. A material permitting unlimited variations and ways of shaping, clay can also be transformed through firing at a sufficiently high temperature into a stone-hard, impermeable substance and is thus ideally suited to forming vessels. Clay also provides rich opportunities for decoration through incision, relief ornament, or the addition of a colored slip or paint. (See “Potters and Pottery in the Ancient Near East” later in this volume.)

Clay for making vessels is first cleaned of impurities and then mixed with sand, grit, shell, or chaff to prevent shrinking and cracking when the vessel is dried. In the ancient Near East, vessels were most often formed by coil building, molding, and throwing. In coil building, the walls of the vessel are formed by adding sausage-shaped rolls of clay of various lengths and smoothing and flattening the rolls by hand or with the aid of a simple wooden or bone tool. Coil-built vessels are often formed on a turntable, which may be as simple as a piece of stone or as elaborate as a specially made device. Pots were also formed in open or two-piece molds made of wood, stone, clay, or metal. After about 4000, a pivoted turntable, usually referred to as a potter's wheel, assisted in forming vessels more uniformly and rapidly. The rotating turntable allowed the potter to use centrifugal force while shaping a lump of clay into a vessel. In the ancient Near East, the power needed to rotate the turntable was often provided by a human assistant (fig. 4). A continuously rotating turntable, operated with a pedal like a modern potter's wheel, seems not to have been available until after 700.

While still wet, a clay vessel may be decorated by impressing patterns into the soft surface or by applying pellets or bands of clay. When partly



Fig. 4. Drawing illustrating the making of pottery, from a painting in Tomb 93, Thebes. One man and his helper rotate clay on the wheel, another mixes the clay by treading it, and a third works the kiln. AFTER MUSEUM OF FINE ARTS, BOSTON, *EGYPT'S GOLDEN AGE: THE ART OF LIVING IN THE NEW KINGDOM, 1558–1085 BCE* (1982)

dried, the surface may be decorated with a slip, a mixture of fine clay and water that may be colored with mineral pigments. Burnishing, or rubbing down the surface with a smooth, hard tool such as a pebble, compacts the surface of the clay and helps make the vessel impermeable. Burnishing thus serves a practical as well as a decorative or aesthetic function.

Pottery was baked in kilns heated to temperatures of around 500–600° C (930–1100° F). In Mesopotamia, where several examples have been excavated, kilns seem in general to have been low, domed structures with a vent at the top. The vessels were placed on a perforated clay floor above the fire, thereby preventing ashes and bits of wood from adhering to their surfaces. Egyptian kilns, known primarily from tomb paintings depicting the manufacture of pottery, appear to have been taller, chimney-like structures, open at the top.

Clay products other than pottery, such as figurines, were modeled by hand; sometimes these were only sun-dried and not subsequently fired in a kiln. Flat plaques with relief decoration were formed by pressing clay into shallow open molds, allowing for the inexpensive, standardized reproduction of these objects.

METAL

The earliest use of metals, and the subsequent development of metallurgy, took place in the ancient Near East. The first known metal artifact,

a native copper bead dated to 9500, was found at the site of Shanidar in northern Mesopotamia. Methods for winning metal from its ores had been developed by the fourth millennium. Also by that time, it was known that copper could be mixed with other metals (alloyed) to achieve materials of varying hardness, color, and working properties. By 2800, metalworkers had developed all of the basic techniques used until the modern era. (See “Mining and Metalwork in Ancient Western Asia” earlier in this volume.)

Metal was first worked by cold hammering (hammering at normal temperature), a method already used for millennia to work stone in the manufacture of tools and weapons. Metallurgy, the science and technology of metals, began with the understanding and exploitation of specific properties of metal: malleability, ductility, and rigidity. Metallurgy is closely linked to advances in pyrotechnology developed for the firing of ceramic vessels.

Copper, silver, lead, and gold were the principal metals used in the ancient Near East. Iron, a relative latecomer, was introduced in the third millennium. Owing to its entirely distinct character and working properties, iron was more difficult to understand and use, and thus, with few exceptions, its role in early Near Eastern metalwork was limited. During the first millennium, iron gradually replaced copper alloys for the manufacture of many tools and weapons. Ancient near eastern metalwork that has survived to the present day consists mostly of alloys of copper, silver, and gold—the principal nonferrous metals.

Ancient texts suggest that ores were usually refined fairly close to their sources, in wooded areas where sufficient fuel was available to achieve the high temperatures necessary for smelting (heating a metal to separate it from its ore). Most metalsmiths probably knew relatively little about the processes of extracting or smelting and worked instead from ingots or other processed forms of metal. Gold or silver jewelry was often made by reusing necklaces, bracelets, or rings, which were melted into lumps or hammered into sheet metal.

Two basic techniques predominate in the working of nonferrous metals. The first is casting, whereby metal is melted and poured into a container called a mold. The metal then solidi-

fies, taking on the shape of the interior cavity of the mold. Molds must be fashioned from a material strong enough to withstand the heat of the molten metal. Ancient molds recovered from sites in the Near East are made of baked clay, stone, sand, or metal (fig. 5). Using the technique of casting, metalsmiths can create small, intricately shaped pieces, such as jewelry, as well as larger or utilitarian items, such as tools. Casting also allows for the efficient production of a single form many times over. Thus it is a practical way to manufacture objects for which identity of form is desirable, such as beads for a necklace or standardized tools.

In investment casting, or casting by the lost-wax method, a model of the object to be cast is made in beeswax, then covered with clay. When heated, the wax runs out through holes provided in the mold; molten metal is then poured into the cavity left by the melted wax (fig. 6). The lost-wax method was used in the ancient Near East as early as the fourth millennium for the manufacture of small-scale objects and later for large-scale works such as sculptures. Any tool-marks remaining on the object after completion of the casting process could be polished away with abrasives such as sand or soft stone.

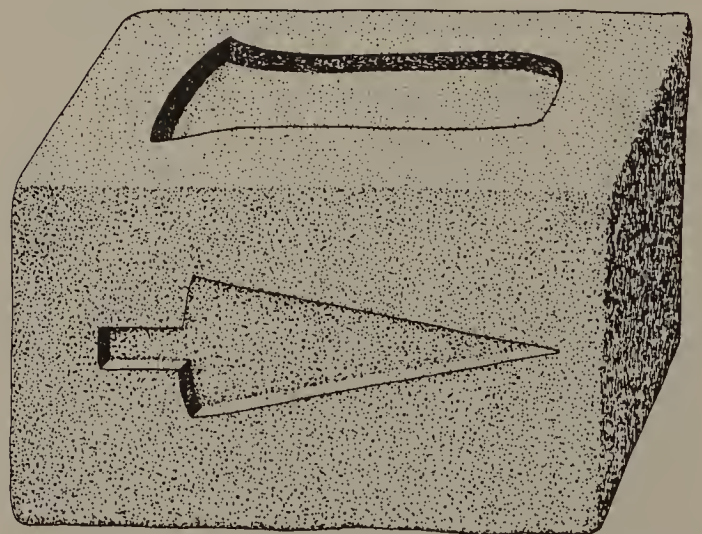


Fig. 5. Drawing of a simple open mold made of sandstone used for casting metal objects such as daggers and chisels. Molten copper was poured into the mold. The cooled, hardened metal was then finished and sharpened. The mold was recovered at Chagar Bazar and dates to circa 2400 to 1900 BCE. H. HODGES, *TECHNOLOGY IN THE ANCIENT WORLD* (1970)

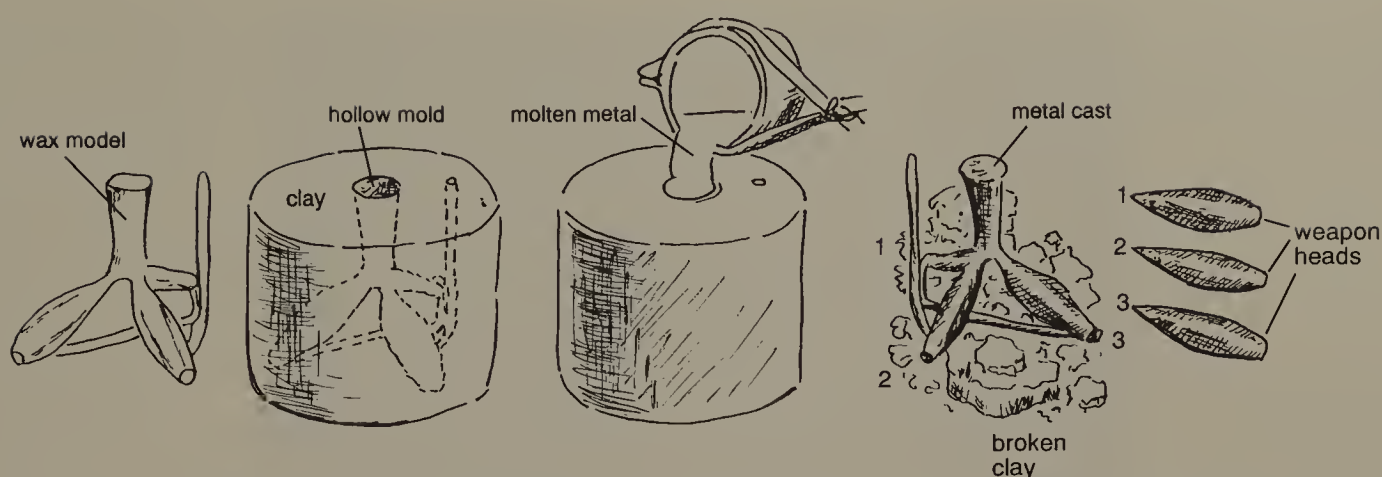


Fig. 6. Reconstruction of the *cire perdue*, or lost-wax, method of casting metal artifacts.
AFTER MICHAEL ROAF, *CULTURAL ATLAS OF MESOPOTAMIA AND THE ANCIENT NEAR EAST* (1990)

Casting techniques worked well with all the nonferrous metals that were prevalent in antiquity. They were particularly suitable, however, with copper alloys, metals whose abundance, versatility, and aesthetic appearance made casting applicable to the manufacture of many kinds of objects.

Hammering as a shaping technique was of major importance in the manufacture of metal artifacts, from earrings and appliqués to blades and vessels. The process draws on the malleability of metals, that is, their ability to be shaped by hammering without breaking. Each hammered piece is unique and, unlike cast artifacts, cannot be duplicated. In addition, hammering techniques require a greater amount of labor and less raw material than casting. Thus when the metal was precious, as in the case of gold and silver, artifacts were often formed by hammering thin sheets. Hammers were often simple, handheld stone pebbles of various sizes, waterworn and smooth.

The most common hammering techniques are raising, sinking, repoussé, chasing, and punching. Sheet-metal vessels, such as bowls or beakers, are normally produced by raising (hammering from the outside) or sinking (hammering the metal into a shaped depression cut into wood or another material). Repoussé involves hammering a design from the back of a piece of sheet metal so that it appears in relief on the front (fig. 7). Some hammering techniques are principally applied to finish and decorate metal objects. Chasing, or hammering down the metal from the front to produce a low-relief design, was fre-

quently employed in the ancient Near East. Punching, in which a patterned tool was hammered into the surface of a piece of metal to achieve a shape or decoration, was used to cut inscriptions on metal objects. Soft metals, such as high-carat gold, can be worked with tools made of bone or hardwood.

Other decorative techniques include gilding, most commonly in the form called true gilding. That process involves applying gold to the surface of another metal; the gold may be in solid form (either foil or leaf) or in an amalgam (a pasty mixture of mercury and gold). In the process called granulation, small grains of metal are arranged in a pattern on the surface of a metal and joined to the surface by soldering or heating. Another decorative process involves inlay with niello, a black enamel-like alloy usually of sulfur with silver, copper, and lead. One of the most characteristic decorative techniques used in Egyptian jewelry is glass inlay, in which sunken areas or cells are enclosed by strips of metal soldered to the face of the metal. The cells are then set with colored glass cemented to the metal surface.

GLAZED MATERIALS AND GLASS

Glazes (vitreous coatings applied to the surfaces of ceramics) and glass are formed by cooling a silicate melt so that it does not crystallize and retains some of the characteristics of a liquid.



Fig. 7. Electrum helmet of King Meskalamdug made from a hammered sheet metal of a fifteen-carat alloy combining gold and silver and decorated in repoussé techniques. To shape and decorate this helmet, artisans hammered the metal from both sides. The interior was originally lined with cloth or leather attached by holes punched along the outer edges. The helmet was found at the Royal Cemetery at Ur and dates circa 2600 BCE. HIRMER ARCHIVES, MUNICH

Glazes were most often applied to the surfaces of soft stones or to the synthetic material known as faience. Around 4000 the Egyptians learned how to coat steatite, a local soapstone, with a blue or green vitreous alkaline glaze. A soft, fine-grained stone, steatite is easily carved into objects such as vases, statuettes, and beads.

The material commonly known as faience is made from powdered quartz grains sufficiently heated to form a coherent mass (sintered), with a self-glazed surface. Faience was probably invented in Iran or northern Mesopotamia around 4500 and then appeared shortly thereafter in Egypt. Initially used to fashion beads, seals, and amulets, by the end of the fourth millennium faience was also used for statuettes, votive weapons, mold-made vessels, and architectural decoration. Modern experiments indicate that faience was fired at temperatures between 800 and 950° C (1,440 and 1,740° F).

The glazes for stones or faience were most frequently colored blue or green, by means of colorants made of mineral oxides. Since the purpose of the glaze was to conceal a ware or stone

surface, artisans sought to create glazes sufficiently opaque to achieve this aim.

Closely related to the technology of glazing is glass, a material used by itself to form objects. The raw materials used in glassmaking consist of a glass former (usually quartz sand), a modifier (soda or potash), and a stabilizer (lime). Throughout the Near East, glass was probably made in an open hearth, using shallow crucibles that rested on heat-resistant supports. The materials are mixed and, when sufficiently heated, fuse into a viscous liquid. Glass colorants, like those used for glazes, are made from mineral oxides. Once cold, glass is solid and can be shaped like stone, by cutting or abrading. When hot, however, glass is highly malleable; it can be rolled into sheets; drawn into tubes, rods, or threads; cut with shears; or pressed into molds. When the glass is ready to be formed into objects, it must be worked within a matter of minutes, since the cooling glass changes quickly from a highly viscous liquid to a solid.

Glass was formed into a wide assortment of objects through several different techniques. In

the earliest method employed for the manufacture of glass vessels, known as core-forming, artisans wound threads (trails) of liquid glass around a core made of clay and dung (fig. 8). The thickness of the vessel's wall and the smoothness of its surface were controlled by rolling the glass-covered core over a marver, usually a flat stone. Upon cooling and finishing, the core was removed. The decoration of glass vessels was achieved by various techniques, most commonly the application of different colored threads of glass, marvered into the surface or left in relief. Mosaic glass vessels were probably made by cutting preformed canes (rods) of glass into the lengths required for the mosaic pattern. The cane-sections were assembled over a solid core, then covered with an outer mold. The mold was then heated slowly to fuse the canes without allowing them to become so hot that the design was lost. When the canes fused, the mold was removed, and the glass surface cleaned and perhaps polished. Glass beads were often formed on a metal rod to provide a perforation, trail-decorated (if desired), and then tooled.

Molding techniques similar to those used to

form small faience objects were also employed with glass. Pendants and inlays made of glass were cast in simple open molds, then ground and polished.

PAINTING

The earliest painting preserved on built walls dates to the Neolithic era. Throughout historical times, interior walls of houses, temples, and palaces were often decorated with painted patterns or figural scenes applied over layers of fine white mud plaster. Stone sculptures carved in the round, in low relief, or incised were also painted.

Extensive evidence for painting on a wide range of materials, including plaster, stone, canvas, papyrus, and wood, has been preserved in Egyptian tombs. The interior walls of the tombs themselves were often covered with fine plaster and painted with figural scenes. Objects created for the tomb, such as coffins, furniture, musical instruments, sculptures, and reliefs, were normally adorned with paint.

Materials and equipment were simple. Paint was made from finely ground minerals or mineral substances, mixed with water and an adhesive, often gelatine or glue, gum, or albumin (egg white). Carbon, azurite, ocher or iron oxide, and malachite were used to form pigments of black, blue, brown or red, and green. Artificial pigments are also found, the best known being Egyptian blue, a powder formed from a colored material akin to glass. Variations and muted shades were not often used, but they could be made by mixing the primary materials. Paints were applied to surfaces with brushes made of pieces of fibrous wood bruised at one end until the fibers separated and formed bristles. Beeswax was also used as a binding medium and as a protective coating on the surfaces of paintings.

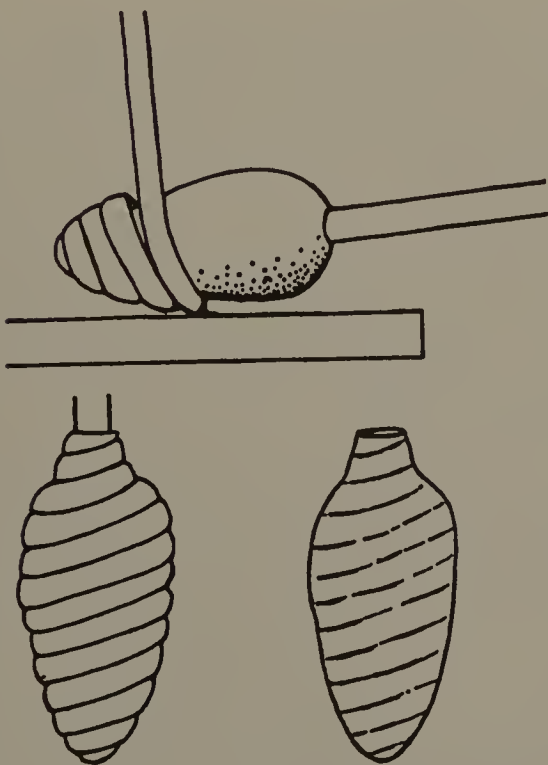


Fig. 8. Drawing illustrating the probable steps in core-forming, marvering, and polishing of a glass vessel. AFTER HENRY HODGES, *ARTIFACTS: AN INTRODUCTION TO EARLY MATERIALS AND TECHNOLOGY* (1964)

WOOD

In Mesopotamia and Egypt, indigenous sources of wood were probably sufficient for making many small-scale artifacts. In the Nile Valley, acacia and sycamore predominated for boats, boxes, coffins, furniture, and other objects. Timber of better quality and larger size had to be

imported. Cedars and other conifers were shipped from Lebanon to Egypt and Mesopotamia, juniper from Syria and Anatolia to Mesopotamia, and ebony from the Sudan to Egypt.

Wood carving, carpentry, and joining were facilitated by the invention of copper tools, a technological step that took place around the fourth millennium. Wood was cut and shaped with adzes, axes, chisels, and saws, all made of metal. Additional tools were the bow drill, blocks of sandstone for polishing, and wooden mallets. Wooden statues of nearly life-size scale were made in Egypt as early as the First Dynasty (circa 3000–2800). Panels with carved decoration, furniture, coffins, chariots, gaming boards, and other objects were made of wood. In Egypt numerous objects made of wood, often elaborately decorated with paint or inlay, have survived in the tombs of royalty and of members of the elite.

Wood was also employed as a building material, chiefly for roofs and columns, which required tall, good-quality beams of cedar or juniper. More extensive use of wood for building, furniture, and other objects was possible in the forested highlands of Anatolia and Iran, although actual examples have survived only under exceptional circumstances of preservation. The tomb chamber and furniture made primarily of juniper, built in the first millennium for King Midas of Phrygia at Gordion in central Anatolia, are examples of the use of wood for construction and for the creation of elaborately decorated tables, screens, and beds. (See “Furniture in Ancient Western Asia” later in this volume.)

BONE, IVORY, AND SHELL

Bone, horn, and antler were used already in Paleolithic times for making tools and ornaments. Sources of ivory—primarily elephant but also hippopotamus—were abundant near the eastern Mediterranean coast and in Egypt until about 700. Shaped by carving with stone or metal tools and by drilling, ivory was employed to make luxury items in two principal categories: cosmetic utensils and containers, and furniture ornaments for beds, tables, chairs, and thrones. Objects were frequently composed of pieces of ivory neatly fitted together by mortises and ten-

ons or by the use of adhesives. Ivory could be gilded, stained, or inlaid with other materials, often colored glass.

Shell, including ostrich eggshell, tortoiseshell, and marine and freshwater shell, was used for cosmetic implements or for inlay. Mother-of-pearl, the material that lines the shell of the pearl oyster and the pearl mussel, was sought for jewelry or inlay.

FIBERS, TEXTILES, AND DYEING

Many individuals were engaged in the production of finished goods made of perishable materials such as textiles or leather. Actual examples have seldom survived outside the dry climate of Egypt, which favors the preservation of organic materials. A discovery in Turkey pushes textile finds back to the eighth millennium.

Reeds, rushes, and other plant parts produced a variety of materials. Date-palm fiber was often used to make baskets as well as mats, an important building material. Papyrus, a native Egyptian plant also used in construction and in pharmacology, is best known for making sheets of writing material.

A knowledge of woven fabrics of the ancient Near East comes from specimens that have survived in favorable environments (primarily tombs), together with impressions of fabrics that are sometimes preserved on clay or metal objects. Linen, spun by hand or spindle and woven by various techniques, was the principal fabric used from Neolithic times, while wool production was of great importance in Mesopotamia. (See “Textile Arts in Ancient Western Asia” later in this volume.)

The dyeing of fabrics involved natural colors made mostly from local plants. Indigo was used for blue, madder or henna for red. The famous purple dye (*phoinix*) that gave the Phoenicians their name was made from the shells of a special kind of mollusk that abounded in the shallow coastal waters of the Mediterranean Sea. The mollusks were gathered and then left to stand, forming a pigment of prized color that was then used to dye linen or woolen fabrics woven locally or manufactured in Egypt. Mordants, chemical agents used to fix the dye to the fabric, must have included alum.

HIDES AND LEATHER

Hides of domesticated sheep, goat, and cattle, in addition to a number of wild animals hunted throughout antiquity, were available for clothing, vessels, and other uses from Neolithic times. Once the fur of the animal was removed, the hide was treated or dressed, in order to preserve it. Such treatment, which included smoking, salt-curing, and oil dressing, probably began at an early date; actual examples have survived from the fifth millennium onward. Tannins, chemicals obtained from a number of different trees and shrubs, were also employed to preserve and color leather.

Awls, simple pointed tools made of bone or metal, were used to pierce leather for sewing or riveting pieces together. Leather was often decorated by dyeing, painting, gilding, or tooling.

BIBLIOGRAPHY

General

HENRY HODGES, *Technology in the Ancient World* (1970). A concise and lively historical survey extending from Paleolithic through Roman times; includes many illustrations and further references. ALFRED LUCAS, *Ancient Egyptian Materials and Industries* (1926; 4th ed., rev. by J. R. HARRIS, 1962). The fundamental reference work on the subject; contains a wealth of detailed information; not illustrated. P. R. S. MOOREY, *Ancient Mesopotamian Materials and Industries* (1994). A handbook covering the entire range of materials, tools, and techniques, drawn from both written and archaeological evidence. CHARLES SINGER, E. J. HOLMYARD, and A. R. HALL, *A History of Technology*, vol. 1, *From Early Times to Fall of Ancient Empires* (1954). An illustrated volume consisting of essays written for the nonspecialist by authorities covering every aspect of ancient technology. Some information is outdated, but the work is unsurpassed in scope and clarity of presentation.

The Organization of Production

MARVIN A. POWELL, ed., *Labor in the Ancient Near East*, American Oriental Series 68 (1987). A collection

of scholarly essays concerned primarily with historical evidence for the organization of work, including arts and crafts.

Technology and Creativity

ANN C. GUNTER, ed., *Investigating Artistic Environments in the Ancient Near East* (1990). Historians, archaeologists, and art historians examine the processes of artistic production and the social contexts of art in Mesopotamia and Iran in this collection of scholarly essays.

Stone

DIETER ARNOLD, *Building in Egypt: Pharaonic Stone Masonry* (1991). A detailed and lavishly illustrated study, tracing the process from quarrying to finishing. CARL NYLANDER, *Ionians in Pasargadae: Studies in Old Persian Architecture* (1970). An historical study that includes a clear, well-illustrated discussion of the tools and methods of stonemasons in the ancient Near East and Greece.

Metal and Glazed Materials and Glass

CYRIL ALDRED, *Jewels of the Pharaohs: Egyptian Jewelry of the Dynastic Period* (1971). Written for the nonspecialist and beautifully illustrated, this survey covers materials, styles, artisans, and their tools. P. R. S. MOOREY, *Materials and Manufacture in Ancient Mesopotamia: The Evidence of Archaeology and Art; Metals and Metalwork, Glazed Materials and Glass* (1985). A detailed synthesis of information from ancient texts and from archaeological sources; not illustrated. JACK OGDEN, *Ancient Jewellery* (1992). An introduction to the forms, styles, and techniques of manufacture of jewelry in the Near East, Greece, and Rome; contains many good illustrations.

Bone, Ivory, and Shell

RICHARD D. BARNETT, *Ancient Ivories in the Middle East and Adjacent Countries* (1982). An illustrated survey of the subject, ranging from earliest times through the Roman period.

Fibers, Textiles, and Dyeing

E. J. W. BARBER, *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean* (1991). Although the author's expertise is in Aegean archaeology, this accessible and well-illustrated study includes much basic information and incorporates evidence from the ancient Near East.

SEE ALSO various chapters in PART 10: VISUAL AND PERFORMING ARTS.

Potters and Pottery in the Ancient Near East

FREDERICK R. MATSON

CLUES FROM POTSDHERDS

Pottery is a particularly useful record of the past because once it is fired, it does not change or disappear with time, as do objects made of metal, wood, basketry, bone, and some kinds of stone. The ductile nature of clay makes it readily responsive to the potters' intents as they shape bowls, cups, or jars. If styles change or the demand for certain vessel forms varies with the seasons of the year, production adjustments are easily accommodated. When the pots are partly dry, a decorative pattern can be incised on them. After drying in the sun, the surface can be painted with bands or geometric designs or shapes of animals such as sheep or goats—or, more symbolically, their horns—applied with small brushes dipped into an iron-rich clay slip. The quite permanent record of potters' wares, even in small, broken pieces, therefore, can show changes in techniques of production and decoration of day-to-day utilitarian items that can provide important clues to a better understanding of life-styles and activities in the distant past.

In the ancient Near East, the fired vessels were used in households as well as in religious/administrative centers and were ultimately discarded. Some pottery was placed in graves so that the deceased could have durable containers for food and perhaps for use in religious offer-

ings. Obviously the vessels found in graves are the most complete, even if they have long been broken because of the great pressure of accumulated earth or of later buildings that rose above them. However, they may not provide a complete record of the many shapes and paste fabrics manufactured at the site or imported from other regions.

The large quantities of sherds that archaeologists excavate from household and courtyard floors, road fills, and the towns' trash heaps greatly enrich the ceramic record. Their shape, decoration, and relative abundance in various areas of the site being excavated provide sensitive indicators of life-styles in the ancient past. They can sometimes supply evidence of chronological, cultural, economic, ecological, political, social, or technological changes if the data are carefully studied and critically evaluated. Succeeding generations of scholars will have new questions to ask and will need the pottery for study. They must rely on the carefully documented ceramic collections from earlier excavations that are stored in museums in many countries. They can then better select archaeological sites to excavate when political and financial conditions make this possible.

Pottery that archaeologists have excavated in the ancient Near East can be used to help trace the development of village life in the mountainous foothills of Anatolia, northern Mesopotamia, and Iran; the riverine floodplains of southern

Mesopotamia and Khuzestan in southwestern Iran; the lands near the eastern shore of the Mediterranean (often termed the Levant); and the Nile Valley of Egypt. Much of this pottery is found in very fragmentary condition as potsherds, which can be used, after being cleaned and sorted, to rebuild the original vessels either completely or sufficiently so that their shape and decoration can be established. Once the vessel types in each area and time period are identified and studied, even individual potsherds can be of help in tracing aspects of cultural change and development from the time when villages were being formed through the development of city-states and the growth of empires.

DEVELOPMENT OF POTTERY ANALYSIS

Our useful knowledge of near eastern pottery production developed rapidly in the 1920s and 1930s, when several of the major archaeological expeditions selected a small area at their sites and excavated it in depth until the groundwater level had been reached or sterile soil of unoccupied land was encountered. At some of them more than one test pit was dug to establish the original extent and contours—whether the original village had been built on a small hill, a sand dune, or a floodplain, for instance. The potsherds in the successive strata of these pits and similar evidence from many other sites have made it possible for archaeologists to recognize a sequence of cultural stages defined principally by potsherds.

The excavators at Ur (al-Muqayyar) in southern Iraq, a site situated beside the ancient course of the Euphrates River, dug such pits in the 1920s and early 1930s under the direction of Sir Leonard Woolley. He investigated at least eleven trial pits, one of them to a depth of 20 meters (62 feet) below the present land surface. In the lowest 2 meters (6.6 feet) of the latter pit he found only clean silt, black mud, and finally green clay. This was evidence of an ancient massive flood. Similar flood layers, but at higher levels, were found in other pits. Related to them were potsherds left by the early settlers. Woolley was able to suggest a sequence of changes in the pottery shapes and decoration showing stylistic

differences with time. These were similar to those found at other city-states in southern Iraq, such as Eridu (Abu Shahrain) and Warka (Uruk, biblical Erech). Such ceramic data were enriched by evidence from other sites that had been occupied for much shorter periods of time.

The study of pottery has made it possible to trace changes in shape, size, and decoration during successive time periods. The technological improvements with respect to raw materials used and the firing techniques are a part of such studies. The ceramic relationships between present-day southern and northern Iraq, southwestern Iran, and to some extent Anatolia have served well, when considering the societal interactions between these regions both chronologically and culturally.

When archaeological work was resumed in the Near East after World War II, problem-oriented excavations were undertaken, often in an attempt to explore or resolve questions that had arisen from excavations of the preceding decades. An important aspect was the carefully controlled surface survey of extensive areas that had been uninhabited for centuries. Large quantities of sherds, flint tools, beads, bits of metal, and other items were acquired; careful area documentation made it possible to recognize the frequency of the distribution of the sherds and other items. Such data often indicated where villages or towns had existed and when they were abandoned, judging by the extent of the key surface debris that could be dated to specific time periods. The characteristic vessel shapes, together with their surface decoration or lack of it, provided the basic chronological tools needed.

When this information is plotted on topographical maps, the groupings or alignments of ancient sites can suggest the courses of former riverbeds and the patterns of irrigation canals that were needed to cultivate the land where there is limited rainfall. They can also be used to indicate the growth of regional population centers, which may point to increasing urbanization. Sherds have been a major means of dating these sites and at times have suggested possible trade relationships with more-distant areas because of similarities in ceramic types and in their mineralogical or chemical composition. This evidence is being used with caution because future excavation at some of the sites could well alter the

scenario. Thick clay deposits from ancient floods obliterated the surface evidence of many low-lying villages. A welcome development has been the identification of earlier village areas near later large urban centers that are probably built *over* such villages, now buried beneath massive accumulations of brick from temple buildings and rebuildings.

Pottery studies now increasingly focus on several related areas. One area concerns the manufacture of pottery, which involves identification of specific clay types used by the potters and the degree of processing required for the vessels to be formed; the manner in which pottery was fired to produce the red, black, gray, brown, yellow, or white of the bodies and the decorative patterns; design of the kilns, and their location in or near the villages and towns; and types of fuel used, information that might serve as an indication of deforestation and of agricultural, desert, or marsh lands.

Another area focuses on uses of pottery in households and in the temple community, as indicated by vessel shape, distribution, and frequency of occurrence in domestic quarters, courtyards, storage areas, graves, and so on. Scrapings of residue—wine, beer, oil, food—from the interior surfaces of containers are being identified.

Also being investigated are the physical and chemical characteristics of pottery thought to be “foreign” in terms of shape or decoration. Such ware may have been made locally by people originally from other regions: wives, military prisoners, slaves, itinerant craftsmen. “Trade” is a word that must be applied with caution in describing unusual wares.

Studies of ceramic ethnoarchaeology are of increasing interest. Contemporary village potters who are active in regions whose ancient wares are being studied may provide some evidence of craft continuity in terms of techniques, processes, vessel forms made, the uses to which the pottery is put in the villages, and its regional distribution. There is also increasing interest and participation in the study of ancient ceramic wares by chemical, physical, biological, geological, mineralogical, and anthropological scientists with special analytical skills. Often they can provide analytical data that are helpful in determining the region in which the pottery was made, the degree of firing, and related technological information. Furthermore, statistical

analyses of the frequency of occurrence, areal distribution, and technological stability or change in successive time periods, together with regional comparisons, continue to refine and expand the ceramic contributions to near eastern studies. For example, wheel-made pottery, a mass-produced item for the market rather than for domestic consumption, gradually appeared in the Near East early in the third millennium BCE.

Art historians and social scientists are showing a renewed interest in the stylistic study of well-documented pottery and potsherds, thus making ceramic studies increasingly significant for the better understanding of culture history.

The sex of the ancient potter is a subject of some speculation, and it is unlikely that there will ever be a sure answer. On the basis of a great number of studies of present-day potters at work in many parts of the world, it seems reasonable to suggest that handmade pottery was produced by women aided by children, but wheel-made pottery, even on the slow, hand-turned pivoted wheels depicted on the walls of Old Kingdom Egyptian tombs, was the responsibility of men, although women often decorated such vessels. This division of labor is related to the time demands socially imposed on the sexes. The construction and finishing of handmade pots usually does not require continuous attention by the potter, which can mesh with the many household chores of intermittent nature that women traditionally have. Men, who can devote their full attention to pottery production, produce wheel-turned pottery, sometimes assisted by apprentices. A sufficient volume of clay must be prepared for the day's work, and vessels must be produced on a regular basis so that a kiln load can be ready for firing. Women often assist when they have free time by decorating the vessels, gathering fuel, and, in general, helping the male potter. Men, of course, cease potting when the agricultural cycle demands all of their time for plowing, planting, or harvesting, or when hunting for game animals is under way.

THE POTTERS' TECHNOLOGY

The Near East contains in abundance the raw materials needed by potters: clay, water, fuel, and, to a lesser extent, iron-rich pigments. Pot-

tery was first made by at least 7000 BCE in the courtyards of small house complexes. These were in village farming communities in the foothills and valleys of the many mountain ranges, and a bit later on the alluvial plains of the great river systems. The archaeological ceramic record really begins with the excavation of low-fired but stable wares, although some unfired vessels, perhaps earlier in date, have been found at Choga Mish in southwestern Iran. There is increasing evidence that in some regions limestone had been calcined in fires and the resulting lime shaped into plaster vessels, some possibly for grain storage. Lime was also used to make burnished floors. The transition from firing lumps of limestone to baking shaped pieces of clay would be simple.

The steady development of ceramic craftsmanship can be traced as a result of the excavation of small mounds in the intermountain districts that were identified because of the scattering of flint and obsidian tools, and at times potsherds, on their surfaces. At some of the sites in central and southern Mesopotamia and Khuzestan where major cities have been excavated, test pits were dug beneath these cities that had existed around 3000 BCE, and far earlier settlements were found that had excellent pottery. The great cities of Ur, Eridu, Warka, and Susa are among those where probes down to groundwater level or sterile soil have yielded pottery made late in the sixth millennium BCE, the Early Ubaid period of the late sixth millennium BCE. Careful land-surface surveys have been carried out since the 1960s over large areas of central, southern, and northern Iraq as well as southwestern Iran and eastern Syria, areas that today are largely unoccupied by villages. Painted fragments of pottery made from Early to Late Ubaid times were found on the surfaces of some small mounds and in zones that had had ancient irrigation canals, both indications of agricultural settlements.

The technology of Ubaid pottery is of particular interest since many of the best-preserved pieces are overfired to a greenish-gray surface coloration with a dark gray-to-black core. The applied design is black and at times contains bubbles. Such pieces, often warped because of the excessively high temperatures they endured, did not break easily, and so have survived almost intact through the millennia. However,

a visitor to Ubaid sites will find abundant potsherds, often small, of low-fired pottery that has retained its pink-to-red painted designs—a soft, easily broken ware.

This extreme variation in degree of firing suggests initial lack of control, perhaps problems with kiln design or the use of too much fuel. This was the time period when evidence for the smelting of copper from malachite and similar ores began to appear, so it is possible that an early form of bellows was being used to raise the firing temperature. Eventually, after much experimentation, firing conditions became better controlled, overfired greenish pottery became rare, and the metallurgical and ceramic craftsmen went their separate ways. At present there is not enough information to trace these developments in detail, but Ubaid pottery, with some regional variation, occurs throughout Mesopotamia, eastern Syria, and southwestern Iran.

The general uniformity in shape and decoration of Ubaid pottery over such a wide region suggests that the food-producing communities with similar life-styles were loosely organized in political terms; migrant groups in search of better soil for crops, grazing, and areas with more rain could move about in successive generations without great hindrance. They would be guided in their wanderings by the courses of the Tigris and the Euphrates, as well as the topography of the valleys through the foothills. They would carry with them their traditions of pottery making, producing vessels shaped to meet their needs, and preserving the decorative embellishing used by past generations of potters. An individual family or group might not move more than one hundred miles (160 kilometers) or so during its lifetime, but within several generations significant distances could have been traversed. Thus the ceramic similarities of widely separated regions in the Near East should cause no surprise.

Clay Preparation

Local clays were used in many ways in the villages, so the potters became well aware of the desirability of selecting very fine-textured clays when fashioning thin-walled vessels, and coarser-textured clays when forming storage jars, cooking pots, and the like. If a stiffer clay

was needed, sand, ash, or vegetable matter such as chaff from the threshing floors could be worked into the mix. Another readily available local product, dung, could serve as an excellent plasticizer to make the clay more workable. Such tempering materials were also used in building unfired clay walls of houses, and in wet-smoothing or plastering their surfaces. It is very instructive to watch modern village potters prepare their clays, noting what materials are selected and how they are added to the clay. In Afghanistan today the fuzz from cattails or bull-rush heads is sprinkled over a large slab of plastic clay and then worked into it to help give the potter a pliant support skeleton in the tempered clay so that it will not crack when he works it. The very fine vegetable chaff impressions that have left their record in the fired clay can often be seen on photographs of Kassite period figurines, for example.

One can easily study the texture of the clay used for different sizes of vessels by preparing tissue-paper-thin petrographic sections from slices cut from potsherds. With the aid of a petrographic microscope, one can examine such sections and determine what mineral inclusions are present in the sherd at the zone sampled, their size ranges, and their relative abundance. The minerals added as tempering material can usually be differentiated from those occurring naturally in the clay. A preliminary approach to texture studies is to grind smooth one of the fractured edges of each of a selected group of sherds, and then study it with a magnifying glass. The texture of the clay body prepared for cooking pots may be quite different from that used to form smaller vessels.

An extreme instance of the skill of some early potters can be appreciated when examining sherds of the very thin-walled, bell-shaped cups found in the Early Ubaid levels at Eridu, where they often occur in graves, resting inverted on saucers. They are fashioned from very well-washed clay that contains no mineral inclusions—such as quartz or grains of limestone—greater than 0.03 millimeters in diameter. The walls of such cups are two to three millimeters thick. The degree of firing of these cups varies. Some have red iron-rich bands painted on a clay body that was fired to a pink color, indicating a low firing temperature. Others, fired to a far

higher temperature, have brown-to-black decorative bands on a yellow-to-white, verging on pale green, body. Production of the thin cups did not continue in later periods. The great majority of the pots made at that time had much thicker walls and were far coarser in texture.

Shaping

Pots or their remaining sherds retain surface and internal clues suggesting the processes by which they were formed. In practice, a potter often uses more than one technique in shaping a vessel; various potters may attain the same results by various methods. There were doubtless household traditions, unchallenged, of how the ware should be produced.

Bowls, jars, and other items can be built from slabs of clay that are pressed together, from a lump of clay into which a central hole is punched, and from clay coils or ropes that are spirally added to a basal plate. By drawing up or thinning the vessel walls with one's fingers and a pencil-like tool, by compaction with a paddle and anvil, or by rotating the vessel being formed while it rests on the potter's lap or on a large sherd, the walls can be produced and their curvature controlled. Again, more than one technique among the many available may be used. The potter fashioning a large jar might build it on a pedestal and then walk in a circle around the stationary jar to thin or shape the walls. In Crete very large jars were coil-built on ground-level, wooden pivoted wheels that an assistant turned by hand. Wheel-made pottery leaves horizontal, finger-formed striations on the vessel's surface, but so can hand-formed pots when their surfaces are smoothed with wet hands. Even when the wheel is used, some of the processes of building up the walls mentioned above may be used.

Early stages in the development of wheel-turned pottery, with differentiation between the slow wheel and the fast wheel, have received an inordinate amount of nonessential discussion. It is generally agreed that wheel-made pottery had become the preferred technique for most wares in Mesopotamia by Uruk times, but some pieces could have been so made in the preceding Ubaid period. The wheel was in use by at least Early Dynastic times in Egypt and by the beginning

of the Early Bronze Age in the Levant. These are general statements to which there are many exceptions. Sketches of potters at work appear on the walls of some Egyptian tombs. One in a Fifth Dynasty tomb (circa 2400 BCE) shows a potter turning a wheel with his hand. A limestone figurine from a Fifth/Sixth Dynasty tomb illustrates this work (fig. 1).

Ornamentation

Many pots were not decorated, but those that were had their surfaces enhanced in many ways after the vessels had been slowly dried in the sun until they were leather-hard. They could then be wet-smoothed by the potter's hand, decorated with incised lines, excised to create patterns as in Ninevite V pottery of the early third



Fig. 1. Limestone figurine of a very thin, ancient Egyptian potter squatting at a low, hand-turned wheel, which he rotates. This figurine from an Early Dynastic tomb at Giza retains traces of the reddish-brown pigment used to color the man and his wheel. The base and the vessel on the wheel are gray; its height is 5 inches. ORIENTAL INSTITUTE, UNIVERSITY OF CHICAGO

millennium, or trimmed with bits of clay added as appliqué. Alternatively, when further dried, they could be surface-slipped with an iron-rich red clay, resulting in a red or black surface coating, depending upon how the ware was fired. The slip was often burnished to produce a glossy surface before it was too dry. Burnishing is a technique that has been used since very early times and may well have had its origin in the grinding and polishing necessary to make stone vessels. Burnished ware continued as a part of the ceramic repertoire in many areas of the Near East into the first millennium BCE.

Decorative patterns could be painted with an iron-rich pigment on selected areas, such as shoulders, necks, and rims of unburnished pottery. Attractive and characteristic patterns varied little from vessel to vessel during a given time period in the region where the pottery was being made. Occasionally the brushes used in such work contained up to five separate tufts with which multiple designs were produced. Such patternings occurred on pottery made as early as the fourth millennium BCE, and are still used in the Lebanon today (figs. 2, 3). Painted designs on ancient near eastern pottery are now being studied from an anthropological point of view to see if they can provide clues to kinship groups or social and political structuring. The ornamentation found on potsherds and whole vessels is of great help to archaeologists as they sort their materials during the excavation itself, for it can quickly provide information about the cultural time period in which the pottery was produced, and thus help to set approximate dates for the successive strata in the excavations.

Kilns

Pottery was first fired on a simple hearth with the stack of dried vessels being covered with brush, straw, or dung cakes to form a protective and continuously renewable dome of fuel over the pots (fig. 4). Later a trench, preferably on a slope to provide an updraft, could house the ware and fuel. At times a C-shaped retaining wall might be built as a container and windbreak for the firing. All three kiln types are still in use today.

More-developed kilns have been recognized at some excavation sites. In general they are cyl-



Fig. 2. A Lebanese woman decorates a small water jug with an iron-rich pigment. She is using a multiple brush of five-unit tufts. Similar brushing techniques to these of the twentieth century were first used in the Near East during the late fourth millennium BCE.

COURTESY OF FREDERICK R. MATSON



Fig. 3. Group of unfired storage jars from Rachaiyah al-Fakhar, Lebanon, drying in the sun, 1955 CE.

The undecorated group in the background have yet to receive their necks, rims, and handles. COURTESY OF FREDERICK R. MATSON

inders built of fired brick and are about two meters in interior diameter and two meters above the ground. There is a subsurface firebox into which the fuel is fed by the potter from an open pit. On top of this pit, at about ground level, is a hearth perforated with flue holes so that the flames and hot gases can rise from the burning fuel into the firing chamber where the pottery is stacked. Rarely have parts of the cylindrical firing chamber survived, but perforated hearth floors are found. The kiln has a temporary roof of large potsherds resting on the top course of the ware to be fired (fig. 5). The earliest known kilns of this type were excavated at Yarim Tepe I, a Hassuna period site of the seventh millennium west of modern Mosul, Iraq. There are many variants in the local design of such simple updraft kilns throughout the Near East today.



Fig. 4. Iraqi Kurdistan vessels that have dried in the sun and then near cooking fires are nested in a saucer-like depression in a bed of ashes, 1954 CE. Dried cattail fronds served as tinder. Dung cakes, the fuel, are being placed above and around the pots. The hearth is about four feet in diameter.

COURTESY OF FREDERICK R. MATSON

One can find them in use from Egypt to Afghanistan. In some, limestone rocks are placed in the firebox for calcination, so as to produce a small supply of lime to use as plaster.

URBANIZATION AND MASS PRODUCTION

There were marked changes in the fourth millennium BCE. The potter's wheel became the usual device used for shaping pottery, as can be seen from the horizontal striations left on the vessel walls. Decoration of the wares gradually disappeared, with the result that they were uniformly drab or plain. Lack of ornamentation suggests that the vessels were strictly utilitarian.

Pottery was made in large quantities to supply the needs of the populace of the major towns that were developing. The religious and administrative centers, closely interrelated units, were supported by offerings to the gods and tribute to the rulers. Containers of fired clay were needed to store the oil, wine, grain, and other items that the local people had to supply. These great political and economic changes that are revealed in the remains of the cities and pottery that have been excavated, and in the records



Fig. 5. Updraft kiln in Afghanistan being fired with brush as the fuel, 1960 CE. The crown consists of potsherds left from previous firings. Fuel is fed into the firebox from the pit in which the potter stands. The wares rest on a floor perforated with holes; this is the ceiling of the firebox. COURTESY OF FREDERICK R. MATSON

preserved on cuneiform tablets, began in the Uruk period in Mesopotamia, during the five centuries before the Early Dynastic period. In Egypt the Naqada II Late Predynastic culture was succeeded by the period of unification (Naqada III or Dynasty 0), the Early Dynastic period, and Old Kingdom; in other near eastern regions, the terms used for these time periods are Late Chalcolithic and the Early Bronze Age.

The demands for pottery in increasingly larger quantities led to the appearance of craft specialists: full-time potters who could supply the demand by use of the potter's wheel. This seems to be a likely scenario necessitated by urban

growth, with political control exerted on large groups of people. Other craft specialists, no longer full-time farmers, certainly were present. It is not possible to quantify the changes in the ceramic production record for the last three millennia BCE during the successive dynastic periods and empires in the Near East, characterized by very destructive military activities of conquest and suppression. However, so far, the pottery found in graves and the huge quantities of potsherds found in ancient city sites make it possible to trace changes in the types of vessels required and variations in the shapes of the cups, bowls, jugs, jars, lamps, cooking pots, and storage jars through variations in proportions and in details of rim and base design. These help archaeologists to date the successive layers of the debris resulting as later cities were built on top of the older ones.

Many of the smaller wheel-turned pieces were possibly made from a lump of clay that was centered on the wheel. Several pieces could be successively turned on the wheel until the lump of clay was used up. When the upper parts of the pot being turned were complete, the potter would pinch off the piece at its basal zone and put it aside to dry. Later, when the piece was leather-hard, its base could be finished. Such a technique is often used by potters in near eastern villages today when they are making small pieces (see fig. 6).

The remains of ancient potters' wheels have seldom been recognized, if found. Sir Leonard Woolley found a large disk at Ur that he thought had been a potter's wheel. It was 75 centimeters (30 inches) in diameter and 6.5 centimeters (2.6 inches) thick. Close to the rim was a small hole that he presumed was for the insertion of a stick



Fig. 6. Low potter's wheel being rotated by a stick inserted in a hole in the rim so as to build up rotary speed, 1972, in Kabul, Afghanistan. A lump of clay for forming pots is on the center of the wheel. COURTESY OF FREDERICK R. MATSON

to rotate the wheel, similar to what the Afghan potter seen in figure 6 is doing. A few two-piece pivoted-stone rotating devices have been found in Israel that may well have served as potters' wheels. It is possible that fired clay wheels up to about 25 centimeters (10 inches) in diameter with flanged pivot holes found in central Mesopotamian sites of Uruk times and later could have served as potters' wheels, for they are nicked and, at times, abraded around their rims and flanges. A larger flat support, wedged with clay, could have been placed on top of such pivoted wheels to support the pot being made.

The development of glazed pottery marked an important technological as well as decorative advancement. Its appearance in Neo-Assyrian and Neo-Babylonian site levels suggests craft communication with glass and metal workers. Glass was being produced in Sumerian times, judging from texts on cuneiform tablets, but not until the major cultural changes in the Near East around 1500 BCE did it begin to appear in the archaeological record. The modification of glass composition formulas so that the material would adhere to a clay body (as well as one of crushed sand, often termed *faience*) was accomplished during the following centuries. The glazed-brick walls of the Ishtar Gate and Processional Way at Babylon—blue, turquoise, green, yellow, white, and black—give evidence of ceramic mass production. Glazed pottery was common in Hellenistic and Parthian times. The metallic oxide colorants used in the glazes probably had their origin in residual slags, a form of opaque glass, and the black copper oxides discarded by the metalworkers. Occasional potsherds of Hellenistic and Roman wares that are found doubtless owe their presence to the Alexandrian and Roman legionary conquests in the Near East—tableware for the commanding officers.

MARKETS AND TRADE

When archaeologists are studying the pots and the large quantities of potsherds they have excavated, unusual pieces are put aside for consideration as possibly imported items that might indicate contact with other regions where different types of pottery were being made during the same general time period. Could they be

indications of trade connections, wares brought in by conquering armies, craftsmen brought from distant regions either voluntarily or as spoils of conquest, royal or political gifts? Before conjuring up hypotheses of trade relationships on the basis of unique shards, one should keep in mind that ceramic vessels break easily, especially in long-distance transport. Although a ware looks different, it may not be imported. The Early Ubaid thin-walled cups from Eridu that have been discussed might be such an example.

Production and Local Markets

The demands for pottery in quantity in the ancient urban centers had to be met by potters who could work near their supplies of raw materials: clay, water, and fuel. Their simple workshops, a part of larger family living quarters, might be located in villages close to towns and cities. The potters' work schedules might be altered by the annual agricultural cycles of plowing, planting, and harvesting, the availability of fuels, or predictable periods of heavy rains that could affect the drying of the pots and the firing of the kilns. The seasonal demands for particular types of pots could also affect the production schedules, as would imposed absences to perform forced labor for the overlords.

The finished pottery would be brought to the urban markets, small open-air areas throughout the towns, and later to bazaars. In the latter the pottery sellers would likely be grouped in one quarter. Wares from several villages would be grouped together by the shopkeeper, who might be a relative of one of the potters. Instead of "for sale" one should probably consider barter for goods or services, or taxes. The produce from dispersed villages, now grouped together, would differ in detail with respect to quality, decoration, specific shapes, and the like. (This paragraph contains many "mights" and "coulds," and is based on current ceramic ethnoarchaeological studies in near eastern villages. Other scenarios can, of course, be postulated.)

Distant Suppliers

Archaeological excavations near coastal ports, such as those along the Levantine coast and the Nile Delta, turn up ceramic evidence of trade



Fig. 7. The captain of a Greek *caïque* with its load of pottery from several coastal towns has just unloaded casseroles made on the island of Siphnos in 1963 CE. He will load local pottery as a part of his cargo. COURTESY OF FREDERICK R. MATSON

that can be recognized and technologically tested for compositional differences. Such pottery is usually from the last fifteen hundred years BCE, when ceramic techniques and styles had become perfected and regionally specialized. An obvious example is the Mycenaean pottery made on mainland Greece that has been found on the Aegean Islands and in the Near East. There is always the possibility that Mycenaean potters might have moved to the Near East, either forcibly or by choice, and then used the local clays. R. E. Jones summarizes the current information on the basis of technological analyses of local versus imported wares of the Mycenaean type as well as other specific products found in Cyprus, the Levant, and Egypt. The relationships between Egypt and Crete have long been studied in terms of pottery and stone vessels, and also as shown on the depictions in tomb paintings.

Today small *caïques* continue to sail through the Aegean Sea, calling at island ports; some of those stop on the Levantine coast sell pottery and pick up wares that will be sold as demand dictates farther along in their journeys (fig. 7). One can assume that such nautical trade is not unlike that of the past.

There are remarkable similarities between pottery shapes in many parts of the Near East, beginning in early times. These clearly indicate cultural contacts before the empire builders and conquerors were active. To cite but one example, very crude bevel-rim bowls have long been recognized as a ceramic hallmark of the Uruk period (circa 4000–3100 BCE), appearing in tremendously large quantities. Their use continues to be debated despite the many suggestions that have been made. At present it appears that such small bowls may have been molds for lightly baked leavened bread that was crumbled into a

mixture of water and yeast in jars that were then sealed. The fermentation from the bread and yeast would produce beer, a staple beverage in Sumerian times and later. Many spouted jars and bowls thought to have been for beer have been found. Michael Chazan and Mark Lehner have surveyed the abundant literature on this subject and have provided an illustration of a tomb scene from Egypt that shows a Fifth Dynasty brewery and bakery. By analogy, the Mesopotamian bowls might have served in a similar way, possibly earlier than in Egypt.

Archaeological excavation is not possible in many parts of the Near East at present. While collections from earlier fieldwork continue to be studied, more specific questions relating to pottery are being formulated that problem-oriented excavations in the future may help answer. Ceramic products have evolved for more than nine thousand years. Thanks to their durability they will continue to provide evidence, as they are studied, of the ways of life in times past.

BIBLIOGRAPHY

General

DEAN E. ARNOLD, *Ceramic Theory and Cultural Process* (1985), provides a stimulating approach to the interpretation of the evidence provided by ancient pottery with respect to the social, cultural, and environmental factors of ceramic production. ROBERT W. EHRLICH, ed., *Chronologies in Old World Archaeology*, vols. 1 and 2 (3rd ed., 1992), is an excellent starting point for obtaining references to publications on and brief characterizations of most pottery wares in the Near East; the revised manuscripts were submitted by 1986. WILLIAM A. LONGACRE, ed., *Ceramic Ethnoarchaeology* (1991), includes, in addition to papers of a more general nature, CAROL KRAMER's "Ceramics in Two Indian Cities," which is of particular value in a near eastern context because it deals with the wares of potters in Rajasthan in western India. FREDERICK R. MATSON, ed., *Ceramics and Man* (1965), consists of papers, presented at a pioneer ceramic symposium, evaluating the contribution of studies of unglazed pottery from many parts of the world to archaeological and ethnological research.

Regional

RUTH AMIRAN, *Ancient Pottery of the Holy Land: From Its Beginnings in the Neolithic Period to the End of*

the Iron Age (1970), a broad survey, is abundantly illustrated with photographs and line drawings of pottery spanning the period from about 6000 to 586 BCE. DOROTHEA ARNOLD and JANINE BOURRIAU, *An Introduction to Ancient Egyptian Pottery*, vol. 1 (1993), is the first part of a comprehensive, multi-author manual; JANINE BOURRIAU, *Umm el-Ga'ab: Pottery from the Nile Valley Before the Arab Conquest* (1981), is an excellent, well-illustrated catalog that presents an overall view of the development and change in ceramic production in Egypt and Nubia; PINHAS DELOUGAZ, *Pottery from the Diyala Region* (1952), a basic reference work for Mesopotamian pottery studies, reports on the pottery excavated at four major sites in central Iraq ranging in time from the Protoliterate through the Old Babylonian periods. SHINJI FUKAI, *Ceramics of Ancient Persia*, translated by Edna B. Crawford (1981), contains colored plates of glazed Iranian ceramics dating between Kassite and Neo-Babylonian times with accompanying text and some chemical analyses of glazes. ROSTISLAV HOLTHOER ET AL., *New Kingdom Pharaonic Sites: The Pottery*, Scandinavian Joint Expedition to Sudanese Nubia, vol. 5 (1979), is a well-organized guide for use in the study of Egyptian pottery, especially at New Kingdom sites. TRUDY S. KAWAMI, *Ancient Iranian Ceramics from the Arthur M. Sackler Collections* (1992), has excellent illustrations, many in color, of Iranian pottery from the Neolithic through the Sasanian periods, each accompanied by commentary. DAVID OATES, *Studies in the Ancient History of Northern Iraq* (1968), A and B, provides useful characterizations and bibliographical references to the Hellenistic, Parthian, and Roman pottery from near eastern archaeological sites. OWEN S. RYE and CLIFFORD EVANS, *Traditional Pottery Techniques of Pakistan: Field and Laboratory Studies* (1976), discusses the unglazed and glazed wares made by Pakistani potters, mostly in 1971. JÖRG SCHÄFER, *Hellenistische Keramik aus Pergamon* (1968), contains extensive documentation and photographs of Hellenistic vessels and shards found at Pergamon; FRANK H. STUBBINGS, *Mycenaean Pottery from the Levant* (1951), though far out of date, is still a useful illustrated summary of characteristically Greek Mycenaean-type pottery.

Technological

WILLIAM R. BIERS and PATRICK E. MCGOVERN, *Organic Contents of Ancient Vessels: Materials Analysis and Archaeological Investigation*, MASCA Research Papers in Science and Archaeology 7 (1990), reports on the current state of research leading to the identification of the residual organic material sometimes found on the interior surface of excavated pottery. *World Archaeology* 21, no. 1 (1989), an issue titled "Ceramic Technology," covers aspects of current ceramic tech-

Potters and Pottery in the Ancient Near East

nological interest. MICHAEL CHAZAN and MARK LEHNER, "An Ancient Analogy: Pot Baked Bread in Ancient Egypt and Mesopotamia," *Paléorient* 16 (1990), compares Mesopotamian bevel-rim bowls of the Uruk period with Egyptian Old Kingdom bread molds whose manufacture and use can be documented. B. E. JONES, *Greek and Cypriot Pottery: A Review of Scientific Studies* (1986), contains analyses of pottery of the Aegean type found in Cyprus, the Levant, and Egypt, plus an extensive bibliography. PRUDENCE M. RICE, *Pottery Analysis: A Source Book* (1987), a basic reference work concerned with archaeological ceramic technology, is encyclopedic in scope and contains an

extensive bibliography and a good index. OWEN S. RYE, *Pottery Technology: Principles and Reconstruction* (1981), is a very useful handbook written and illustrated by a skilled potter who has made ethnographic studies of traditional potters in many parts of the Near East. ANNA O. SHEPARD, *Ceramics for the Archaeologist* (1956; 8th printing, 1976), is a classic reference work that continues to be an essential tool for ceramic analyses. CARLA M. SINOPOLI, *Approaches to Archaeological Ceramics* (1991), a brief introductory text, prepared for the use of university students, can serve as a starting point, providing orientation for further study of potsherds and pottery.

SEE ALSO various chapters in PART 5: HISTORY AND CULTURE, Vol. II.

Textile Arts in Ancient Western Asia

CAROL BIER

TEXTILE PRODUCTION IN THE ancient Near East was encouraged by an environment favorable to the cultivation of natural textile fibers such as flax (for linen) and wool. Long before cotton and silk were introduced to the Near East in later antiquity, the domestication of sheep and the preparation of flax supported the significant role of textiles in the region, representing some of society's most advanced technical achievements. But too often, because of the perishable nature of textiles, the lack of remains has obscured their importance to the economy and to society.

USES OF TEXTILES

In antiquity, as today, textiles served many functions simultaneously: they were required by all individuals from birth to death; they were utilitarian; they were culturally expressive; they were the products of advanced technologies, which required specialized labor and communal effort; they were prized possessions, bearers of symbolic meaning, and objects of trade. Everywhere, textiles have served to provide shelter and protection from the elements, to beautify interior environments, to store and transport materials and goods, to facilitate human activity, and to communicate values. Early on in the ancient Near East, it was recognized that the textile

arts could combine form and function to address basic human needs and at the same time ornament the immediate environment, pleasing the eye and soothing the soul. The same human needs existed in antiquity as now for shelter and protection against the elements (sun, rain, wind, and cold) and for storing, securing, moving, and gaining access to goods and belongings—yet the plethora of modern materials, natural and synthetic, has become available only in the last century or so. Striking evidence on the antiquity of attempts to meet these needs was discovered among pre-Pottery Neolithic finds at the Naḥal Hemar cave in the southern Judean desert (6 kilometers [3.6 miles] west of the Dead Sea): containers ingeniously fashioned from fibrous materials soaked in asphalt so that they could hold liquids.

The solutions arrived at in antiquity were functional responses to the human condition, utilizing renewable resources for reusable objects, and were often more ecologically sound than many of our own. Many ancient solutions remain with us today, even in technologically advanced societies: felt continues to be used as an insulating material for roofing; rope continues to serve as a means for suspending, securing, binding, and lifting; linen remains the fiber of choice to provide comfort in warm weather; wool is still best for warmth in winter and for its ongoing protection when wet. In contemporary tradi-

tional pastoral societies, we still see the use of black tents woven from goat hair, which provide shelter and protection from both the heat of the sun and driving rain but allow the air to circulate. Felt coats are worn by shepherds in upland pastures, and fabric bags are used to transport belongings and goods to the market and back, and on caravans. We need think only of bales of cotton, bags of flour or coffee beans, or potato sacks to recognize the ongoing importance of textiles as packaging materials.

These functional continuities are all of a practical nature. But by analogy to modern times and to recent memory, we can imagine the force of textiles in antiquity as a means of communicating values, status, and roles; indicating social relationships; or promoting and maintaining certain ideas and ideals. These more ritualistic, ethical, and social textile functions have provided the foundation for recent interdisciplinary studies, such as those presented by Annette Weiner and Jane Schneider, to address complex moral and ethical issues related to cloth worldwide as expressions of dominance and autonomy, opulence and poverty, political legitimacy and succession, gender and sexuality.

The functional potential of textiles to serve as a visual medium—that is, to convey meaning—was exploited early on in the ancient Near East. Textiles could define one's domestic space and identify one's belongings. They might distinguish among individuals and among groups, not only by fashion trends but also by supplying one's surroundings and property with color, form, and structure. In cultures in which gender-role expectations precluded a public presence for women, textiles as a domestic art came to express the attitudes, capabilities, and creative inspiration of generations of women.

Textiles communicate through color, structure, pattern, and design, and these are also the attributes of style. Style and its elements may be recognized and understood within a community that is visually responsive to the signals it carries. As visual materials, textiles in the ancient Near East were recognized and utilized as a powerful means of nonverbal communication. While the materials of manufacture, the technologies employed, and the resulting objects may have

conveyed considerable information to contemporary viewers, today our understanding of such information must be gleaned by careful and critical observation and interpretation of diverse sources. But in the original cultural contexts, much of what was communicated by textiles was no doubt subtle, if not subconscious.

Textiles in the ancient Near East served in numerous intangible ways. During ceremonies, they defined royal, social, and ritual status. At death, they served as wrappings for the body and as shrouds, stuffing, covers, and offerings during burial. Fortunately, the inclusion of textiles among provisions for the hereafter by cultures in arid regions of the ancient world—regions where textiles have the best chance of surviving—has provided an important source for our study of the past.

More practically, interior furnishings frequently used textiles as covers of many sorts. The Near East encompasses regions in which furniture had a decidedly less important role than it has now in the West, except in elite and royal contexts. We have ample evidence for constructed and decorated pieces of furniture for sitting, sleeping, and banqueting, and these were often provided with cloths or covers, as illustrated in Egyptian tomb reliefs and paintings, Assyrian palace reliefs, and Achaemenid tomb and architectural reliefs. The majority of the populace, of course, probably lived without much furniture; people nonetheless faced the same difficulties as royalty in keeping the body warm. Covers, though less richly embellished than those of the royal household, were required and were similarly constructed of woven or felted materials. Textiles were used as covers, including floor covers, throughout all levels of society, as well as for pillows, bolsters, cushions, and hangings for both warmth and comfort.

Among textiles, carpets hold a special status. They not only provide warmth and lend color and pattern to the environment—and in Islamic periods, suggest everlasting spring and an illusion of paradise—but also serve to store and display wealth and provide ambient interest on a wall or floor. To judge from patterns of consumption evident in the past half millennium, carpets produced in the Middle East were made for a



Staircase reliefs from palace of Darius I at Persepolis showing cloths used to cover containers that are carried by servants, fifth century BCE. ORIENTAL INSTITUTE, UNIVERSITY OF CHICAGO

broad market, for unlike the book, carpets are not restricted to the literate few or the court; unlike metalware, they are made from materials more or less readily available in both nomadic and sedentary environments; and unlike ceramics and glass, they are unbreakable and neither so needy of ready replacement nor so difficult

to ship. Nonetheless, carpets cost much and require not only the supply of materials and dye-stuffs, with an attendant knowledge of dye technologies, but also a pool of ready labor to produce them knot by knot. But while Oriental carpets have traditionally been present in all levels of society, from relatively isolated no-

madic pastoralists to the highest pinnacles of court production and consumption, there is, in fact, very little material evidence to document the presence of carpets before the eighth century CE. The only fixed point in antiquity is that provided by the so-called Pazyryk carpet (from Pazyryk in Siberia), likely buried in the late fourth century BCE, although its manufacture may have been earlier.

Textiles also served as containers. Examples include cradles, pack-animal bags, slings, various types of luggage, and bags to hold flour, salt, grain, personal belongings, weapons, bedding, spoons, spindles, tent poles, bread—virtually anything that needed to be contained. Since textiles are the most perishable of all materials, we must assume that their pervasiveness and usefulness far exceeded their representation in archaeological assemblages. We know that in antiquity the challenge to contain and carry was met by vessels made of ceramic, metal, leather, glass, and stone. But these materials, when compared with textiles, are not as adaptable or as flexible in either manufacture or use. Textiles are more easily transported, more easily stored, and virtually unbreakable, although they wear out. Fabric containers, whether of wool or cotton, reed or bast fiber, could be made from readily available materials that were annually renewable resources.

To judge from the availability of materials and labor, textiles clearly offered possibilities for large-scale and cost-effective production; preserved archives of the ancient world show that this potential was recognized. Although physical remains are scarce, textual sources indicate that a large number of people were employed in textile industries and large quantities of materials were used. Hartmut Waetzoldt's analysis of Neo-Sumerian textiles of the twenty-first century BCE gathers evidence for the manufacture of textiles, which was clearly a major industry. Thousands of laborers worked long hours in the workshops of Lagash during the Third Dynasty of Ur, with a highly organized managerial hierarchy in an industry requiring both teamwork and cooperation for the production of large quantities of cloth in a commercial environment. There and elsewhere in the ancient Near East, textiles played a key role in both local economies and long-distance trade.

TECHNOLOGY AND PATTERNING

To discuss textiles is to imply technology, the application of appropriate and specific knowledge concerning the manipulation of materials to achieve desired results. In reference to textiles, this includes an understanding of the physical properties of fibers and what is required for their production (agriculture, animal husbandry, and flock management); the processing of fibers (carding, spinning, and weaving; fulling); the chemical properties of natural dyes and the preparation of organic and inorganic dyestuffs derived from plants, minerals, and animals; and patterning by various means. Some raw materials are available only seasonally, and requirements for water must be taken into account. While leather is processed from a resource that is not readily renewable (hides) and reeds (for basketry and mats) are seasonal, both require rather larger amounts of water for their processing than wool. Some materials are annually renewable and particularly consonant with local ecological constraints (wool, in particular). For the warp yarns to be strung on a loom, long rigid beams are required (difficult to obtain in areas without forests). Yarns must be strong enough to be held under tension without stretching or snapping. High humidity affects the elasticity of wool yarns, a matter of particular concern during the winter months. All these factors must be taken into account for technology to yield viable products.

Of great significance for the various functions of textiles is the array of possibilities for patterning. The processes of patterning are more integral to textile technologies than to the production of any other material. The repetition of design is an inherent capability in the production of textiles made by any of several methods. Pattern is generated simply by counting and repeating the process itself. This is true for loom weaving, as well as for off-loom processes (such as different kinds of looped work), for pre-loom processes (such as some dyeing), and for post-loom processes (such as embroidery and block-printing). In the ancient Near East, the inherent possibilities for patterning were exploited as a function of the relationship between fabric structure and technological process from the Neolithic period onward.

Weaving and Fabric Structure

In weaving at the loom, vertical yarns (warp) interlace with horizontal yarns (weft) to create textiles. The structure of a woven fabric depends on the relationship between warp and weft as it develops during the process of weaving. First, a set of warp yarns is stretched and secured on the loom; their length and placement determines the maximum possible length and width of the textile to be woven. As weaving proceeds, the weft moves from left to right and then returns from right to left, passing through a series of successive passages (each called a “shed”) formed by selectively bringing forward various groupings of warps to create an opening for each weft pass (also called a “pick”). Natural edges of the fabric, called “selvages,” are built up during the process of weaving, as the weft returns in alternate directions.

The relational sequences of warp and weft interlacing determine what is called the “binding system.” There are three basic binding systems for woven fabrics: plain weave, twill, and satin. The simplest weave or fabric structure is called “plain weave” or “tabby,” which exhibits an interlacing over-one, under-one sequence, in which each warp crosses over one weft and under the next, alternately in successive sheds. Taffeta and broadcloth are examples of plain-weave fabrics. Tapestry is also a plain-weave structure, but the weft is discontinuous since it does not carry through from selvege to selvege. Twill weaves exhibit a regular interlacing sequence of warp and weft, over two or more, under one, in progressive fashion, with floats offset by one warp or weft. Satin has a regular interlacing sequence of warps and wefts, over four or more, under one, with a sequence of binding points (crossings of warp and weft) in which one or two warps or wefts are skipped over, causing what is called an “interruption.” More complicated weave structures result from different sequences of interlacing during weaving or from the introduction of additional warps and wefts, which may be supplementary or complementary to the foundation weave. For example, supplementary discontinuous wefts, sometimes called “brocading wefts,” may add color, dimension, and pattern to a foundation of plain weave, twill, or satin. More complex fabric structures, or “com-

pound weaves,” may be achieved by the use of additional sets of warp and weft.

Any of the basic binding systems may exhibit a predominance of warp or weft on the face of the fabric, the effect of which is dependent on several factors such as yarn dimension and count per linear unit of measure. In many instances, the predominance of warp or weft is so great that a weave may be classified as warp-faced or weft-faced, in which the weft or the warp, respectively, is completely hidden from the face of the fabric. Plain weaves and twill weaves may present a balanced appearance of warp and weft, called a “balanced weave,” whereas satin, by definition, must exhibit a predominance of warp or weft.

Woven Patterns

Decoration in woven textiles is a function of the interaction between structure, technique, and design. Structure inheres as physical evidence in the fabric itself, but technique must be inferred. Pattern may be created by the repetition of certain processes (which are inferred) applied to a design to form particular fabric structures (which are inherent). For this reason, caution is urged in the interpretation of loom technology from the evidence of a textile; it can only be speculative at best. Woven patterns rely on the combined interaction of colors with fabric structures as determined by the weaving process. This interaction of elements to form three-dimensional structures that are perceived visually as surface design (in two dimensions) is what distinguishes the textile arts from all others. The inherent structure of the fabric is critical to our perception of the design and pattern. Without an adequate corpus of textiles surviving from antiquity, even description becomes difficult because of the range and variability of both technological parameters and the potential for patterning in the process of interpretation. This caution is especially warranted when considering pictorial sources.

To effect horizontal (weft) or vertical (warp) stripes is a simple matter of selecting colored yarns and using them in sequence, whether at the time of setting up of the loom (warp) or during the process of weaving (weft). A plaid

Textile Terminology

(Italic indicates terms that are contained herein.)

bast *fibrous material* from the stems of certain plants

beater object used intermittently during weaving to pack down wefts and sometimes to space warps; in the latter case, a beater may be comblike in appearance

bobbin object used to hold a small supply of weft yarns for patterning (may be rounded or pointed, and pierced)

braiding technique of interworking by deflection of one set of elements that are fixed at one end

carding process of aligning fibers in preparation for *spinning*

cloth woven *fabric*; as used, sometimes specifically *plain weave*

comb see *beater*

cord length of *fibrous material* that is bundled and knotted or plied

distaff object used to hold *fibrous materials* for *spinning*

drawloom loom for weaving complicated patterns by means of a series of harnesses manned by a person who controls each warp

drop-spindle see *spindle*

dye liquid containing organic or inorganic coloring matter, sometimes with *mordant*, that is used for *dyeing*; dyes (unlike pigments) form a chemical bond with fibrous material

dyeing process by which colors are imparted to fibers, yarns, or fabrics by using *dyes*

dyestuff organic or inorganic coloring matter used to produce *dye*

element a unit with its own structure that forms a component part of the structure of a fabric (e.g., *yarn* or *thread*); a set of elements is a group of such components all used in like manner (e.g., *warp* or *weft*)

embroidery technique, or result of such technique, of embellishing cloth with accessory threads worked by a needle

fabric man-made material in which disparate fibers or filaments are combined and united by *felting*, *knitting*, *twining*, *weaving*, or other technology, to form a material the properties of which are different from those of its constituents and which has a new structure for use in the manufacture of garments, furnishings, or other products

felt a nonwoven fabric of amorphous structure made by compacting *fibrous materials* via heat, moisture, soap, and pressure; as used, often implies wool, the scaled surfaces of which are well suited to *felting*

felting process by which *felt* is made

fibrous material substance composed of animal hair, seed hairs, or leaf or stem fibers (e.g., wool, cotton, and *flax*, respectively), which have a natural propensity to cling or adhere with little or no pressure

filament a long fiber that is threadlike, such as *silk*

flatweave (or *kilim*) any of several weave structures without *pile*; as used, often describes a nonpile woven fabric that is coarser than *cloth*

flax plant of the genus *Linum*, cultivated for its fiber, which is used to make *linen*, and for its seeds, which are used to make oil for industrial applications

foundation see *ground weave*

fringe ornamental border on garment or furnishing that results from cutting cloth off the loom, leaving extra warp-lengths loose (which may then be tied, knotted, or looped), or from materials applied after weaving; as used, implies free ends hanging

fugitive dye *dye* in which the color is impermanent or unstable (i.e., subject to fading), the result of improperly applied dyeing technologies or the lack of a *mordant*

fulling technique of thickening and condensing fabric by controlled shrinking (see *felt*, *felting*)

ground weave any weave that serves as the foundation for a fabric (see *plain weave*, *twill*, *satin*)

heddle a leash or loop used to divide the *warp* to create *sheds* during weaving for the passage of the *weft*; usually, many heddles are used simultaneously by means of a heddle bar (or heddle rod, stick, shaft; harness in treadle loom), placed across the *loom*

kilim see *flatweave*

knitting technique, or result of such technique, of manipulating a single element to form loops that engage one another in successive rows to form a fabric

knotted netting technique, or result of such technique, of manipulating a set of elements by knotting alternate pairs to form a net

knotting technique, or result of such technique, of manipulating a set of elements by tying alternate pairs together

linen yarns made from *flax*, or a cloth woven of such yarns

loom frame for *weaving*, suitable for holding the *warp* taut; some types of loom also have *heddles* to control warps

(Continued from the previous page)

loom weights objects tied to *warp* yarns to keep them taut

looping technique, or result of such technique, of manipulating an element or set of elements by forming a series of loops

mordant substance (often a metallic salt) used in *dyes* to create a permanent chemical bond between coloring matter and fibrous material so that the color in dyed fibers, yarns, or fabrics becomes fixed and remains stable

pick (or *shot*) a single passage of *weft*

pile loop of yarn (or cut ends) that projects from the plane of a fabric, forming a raised surface that obscures the foundation

plain weave (or *tabby*) weave structure in which interlacing sequence of *wefts* is over one *warp*, under one *warp*, in alternate *sheds*

ply to twist together two or more threads to form a yarn of greater strength and stability

pseudomorph a form that defines another substance to which the form belongs (e.g., a [textile] fossil)

satín *ground-weave* structure based on groups of five or more yarns, in which interlacing sequence is over four or more, under one, to form a *warp*- or *weft*-faced fabric of smooth appearance

selvages (or *selvedges*) the naturally occurring stable edges on either side of a textile that are formed during the process of weaving by the return passages of the *weft* in successive *sheds*

shed an opening between selected *warp* yarns for the passage of a single *weft*, created during the process of weaving by dividing the warps, pulling some to the front, and keeping some at the back (see *heddle*)

shot see *pick*

shuttle object used to carry *weft* through a *shed*

silk the fine, soft, lustrous filament unraveled from the cocoon of a silkworm, or a thread or cloth made from such filament

soumak one of several weave structures exhibiting *weft-wrapping*

spin to make *thread* by drawing out and twisting *fibers* (see *spinning*); the direction of a twisted thread, described as being either S-spin (or S-twist) or Z-spin (or Z-twist), depending on its apparent correspondence to the diagonal section of the letter S or Z; if no direction is ascertained, the thread may be described as having no twist (or I-spin or I-twist)

spindle a rod or shaft that turns, used for *spinning*; a spindle may be held in the hand, supported in various ways, or dropped to spin freely, weighted at one end often by a *spindle whorl*

spindle whorl pierced object for use on a *spindle* to weigh it down and prolong *spinning*; sometimes also used to support spun thread as the spindle turns

spinning technique by which *fibrous materials* are combined to form a *thread*; spinning transforms the properties of fibrous materials such that the resulting thread may be held under tension

supplementary weft *weft* that is used in addition to the primary weft that forms the *ground weave* (e.g., some types of *soumak*)

tabby see *plain weave*

tapestry *weft*-faced weave structure in which wefts are discontinuous, a means of introducing different colors (ground may be *plain weave* or *twill*)

tassel group of yarns suspended for decorative purposes

textile anything made of *fibrous material* by a human, including nonwoven structures and unspun materials; woven fabric (this narrower definition, derived from Latin *texere*, "to weave," is restricted to materials made by the interlacing of *warp* and *weft*)

thread a group of *filaments* or twisted *fibers* used for making or sewing *cloth*

twill *ground-weave* structure in which interlacing sequence of *wefts* is over or under more than two *warps* in diagonal alignment

twining a technique, or result of such technique, by which pairs (or larger groups) of adjacent elements spiral or turn about one another in the manufacture of a fabric, enclosing successive opposing elements in each turn or half-turn

twist see *spin*

warp longitudinal set of *threads* or *yarns* that is stretched and held under tension during the process of *weaving* and that interlaces with the *weft* to form a *textile*

weave structure means of describing *warp* and *weft* relationships in a *textile*

weaving process of interlacing *warp* and *weft* to form a *textile*

weft transverse set of *threads* and *yarns* that interlace with the *warp* during weaving to form a *textile*

weft-wrapping technique, or result of such technique, utilizing a *weft* that proceeds with a successive forward-backward movement, effectively wrapping *warp* yarns to produce either a fabric or a *supplementary weft* structure in a fabric

yarn a length of several elements made by twisting and plying *threads* (sometimes used interchangeably with *threads*)

(crossed bands and stripes) is similarly the result of a set of predetermined choices in color and weaving sequence. Other geometric shapes may be achieved and repeated simply by determining the correct count and weaving sequence, as in creating squares, rectangles, or lozenges. But the resultant visual forms are limited by technological considerations and remain integral to the rectilinearity of woven structures. The weaver or designer retains more flexibility playing with the texture in the choice of materials and increases the potential for designs by using discontinuous wefts or by introducing supplementary wefts for patterning. In pattern-woven textiles, a repeat of the design is produced through the process of weaving by selective pulling of certain warp yarns to control and guide the wefts that create the pattern. The earliest figural textiles with woven patterns probably relied on the use of discontinuous wefts, as in the tapestries found at Pazyryk. More complicated figural patterning at the loom results from the use of technological advancements offered by the drawloom, the most secure evidence for which dates from late antiquity.

The analysis of fabric structures is a time-consuming process, complicated, of course, when the information is to be derived from textile impressions or pseudomorphs (see the glossary of textile terminology). While designs cannot be preserved in impressions or pseudomorphs, patterns are occasionally depicted in illustrations of textiles. But in representational evidence, the diagnostic features of textile construction are often absent, and understanding relies on interpretation rather than analysis. Even more difficult is the interpretation of written sources, because the words used to describe textiles are often ambiguous in modern contexts.

Looms

Textiles in the ancient Near East were produced on one of two basic types of loom, similar to those used today for handwoven textiles. The first, and likely the earliest, is a horizontal ground loom, today favored by nomadic pastoralists for portability and ease of setting-up. It is generally narrow, its width equivalent to a woman's arm span. Stakes in the ground keep

the warps taut and secure the loom, which may be removed for transport. A tripod support might be erected above the loom to enable manipulation of warp yarns to create a shed for each passage of the weft. The length of the warp may be as long as is practical, effectively determining the length of the loom. This type of loom is used to weave sturdy fabrics. A wider version of the horizontal ground loom may be worked at by several women at once for weaving kilims or pile rugs. The second basic loom type is vertical—that is, with the warps secured in an upright position. This is accomplished either by means of loom weights to weigh down the warps and keep them under tension or by means of secured beams to which the warps are tied. The warp-weighted loom is documented in the ancient Near East, both from the presence of ceramic weights and from illustrations on seals and in paintings. A vertical loom using rolling beams enables the use of a warp much longer than the structure of the loom itself and is standard today in commercial workshops and village homes, where it is used to produce handwoven fabrics of relatively simple weave structure, or in the manufacture of carpets.

A more-complicated type of loom is the drawloom, the origins of which are not clear, but this technology seems to have traveled westward to the Near East by Late Roman times. Suited to weaving complicated patterns and complex fabric structures, the drawloom requires sets of draw harnesses and treadles, which are manned by a drawboy. This setup enables the weaver to manipulate warp yarns selectively to make a variety of sheds, interlacing the wefts in very complicated sequences. The drawloom thus allows much greater flexibility of design and patterning than either the horizontal ground loom or the vertical loom. At least by the late Sasanian period (fifth century CE), the drawloom had become the standard for commercial workshops where richly patterned luxury textiles were produced. The weft-faced compound silks produced in the Byzantine Empire and Sasanian Iran ultimately became the inheritance of the Islamic world and medieval Europe, where they were preserved in church treasuries and survive in considerable quantities today. Silks woven on the drawloom in the Near East were imported into Europe, providing a strong impetus for the

development of European silk-weaving industries. It is the drawloom of late antiquity that was antecedent to the fully mechanized loom of the industrial age.

Color and Dyes

Color in ancient textiles resulted from the use of natural dyes in combination with naturally pigmented fibers and filaments, sometimes with the addition of a chemical fixer, or “mordant.” Relying on empirical chemistry, the dyes of antiquity were made from dyestuffs deriving from animal, plant, or mineral matter. Some dyestuffs were fairly ubiquitous, as in the case of those derived from plants, seasonally available in the form of flowers, leaves, stems, nuts and seeds, galls, fruit, bark, and so on. Others required considerable labor in the extraction of the dye material, as in the case of purple from sea mollusks. Typically, a dyebath solution would have been prepared, using water, into which textile materials (fibers or filaments, yarns, or fabric) were placed. In the production of a textile at the loom, dyed textile materials might be used in addition to undyed yarns.

The technology of dyeing is clearly very old, but its study is only just getting under way through analysis of archaeological and paleobotanical materials; and by empirical experimentation, an effort is being made to replicate the colors of ancient dyes. While organic plant material was, and is, readily available, the color imparted by derivative dyes is often not stable without the addition of a mordant to fix the color. Mordants could be derived from alum or iron salts, but just when this technology developed is not clear. Iron leached from an iron pot used for dyeing may have provided the impetus for further experimentation.

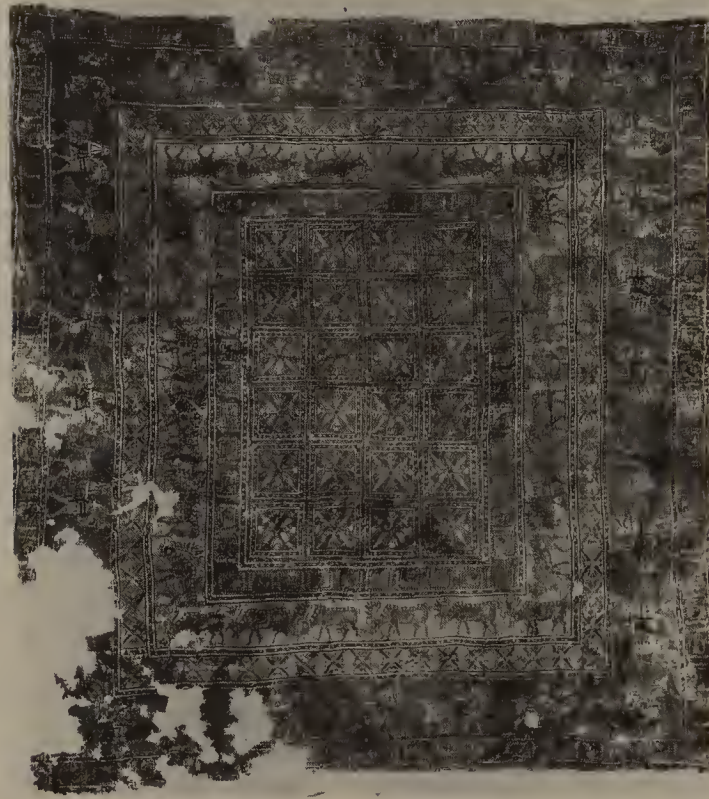
The most famous dye of antiquity was a purple extracted from a gland in several species of sea mollusks. A specialized dyeing industry developed along the Phoenician coast, documented archaeologically by heaps of punctured or crushed murex shells and artifacts associated with the dyeing process, such as ceramic vessels used for heating the dye. Aristotle (fourth century BCE) and Pliny (first century CE) discussed this dye and the methods of its manufacture. A related bluish purple, *tekhelet*, is referred to in

the Hebrew Bible and in later Talmudic literature. Worn by the Achaemenid kings, adopted by Alexander III “the Great,” and treasured by Hellenistic rulers and Roman triumphators, Tyrian purple, named after the city of Tyre, came to signify royalty and power. It was the most costly dye of the ancient world, and its use was highly guarded and sometimes restricted. Its extraction and preparation came under state control in late Roman and Byzantine times, when its manufacturing methods were made secret and unauthorized possession became a capital offense. Biblical and classical sources, archaeological evidence, and recent scientific analyses are discussed in Ehud Spanier’s *The Royal Purple and the Biblical Blue*, but this complicated subject encompassing the sources and manufacture of ancient dyes still presents many puzzles for scholars today. (See “The Phoenicians” in Part 5, Vol. II.)

SOURCES AND THE NATURE OF OUR EVIDENCE

Physical Evidence: Textile Remains

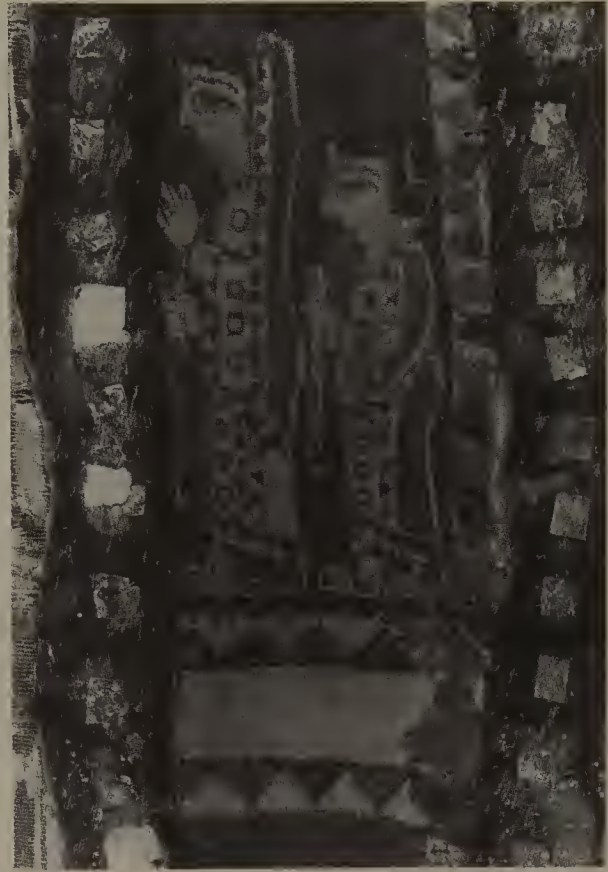
The actual physical evidence for textiles in antiquity is very sparse. In general, textiles have not survived well the ravages of local climate over the millennia or the vicissitudes of archaeological deposition. Considering that little has survived and that even less has yet reached the scholarly arena for study, we can only lament the fragility of the evidence and speculate as to the reality that once was. However rugged ancient textiles were in their original condition, they were made to be used. But the materials of which textiles are traditionally made are organic; they are responsive to fluctuations in humidity and temperature, reactive to light, and subject to both chemical and physical degradation by soil, air, water, and use. What has survived, for the most part (not counting bolts of linen and mummy wrappings from Egypt), are textile impressions in other materials, pseudo-morphs (like textile fossils), and tattered shreds of ancient textiles in dry regions of the world, often found in burial contexts. These offer but a dim glimpse of the richness and variety of the textile arts of antiquity. From Egypt and central



Wool pile carpet (*above*), and detail (*below*) from ancient tombs in Pazyryk, Siberia, late fourth to early third centuries BCE. SERGEI I. RUDENKO, *THE WORLD'S MOST ANCIENT ARTISTIC CARPETS AND TEXTILES* (1968)

Asia, from arid parts of the Iranian Plateau, and from the dry cliffs above the Dead Sea are preserved bits and pieces of burial shrouds, fragments of garments and wrappings or their charred remains, and the occasional impression of a textile structure left on the surface of a corroding metal vessel. But the richness and variety of textures, colors, pattern, and form are for the most part lost, except to imagination. The following remarks pertain to Mesopotamia, Iran, and Central Asia and are compiled from a wide range of disparate sources. Additional material from Egypt, Canaan, and Anatolia awaits synthesis.

A few exceptional and extraordinary finds are of major importance, for they preserve a sense of the beauty lavished on the production of functional textiles in antiquity. Such is the case with the richly ornamented appliqué felts, tapestries, fine silk embroideries, and a decorative wool-pile carpet, all of which were buried with the dead and preserved in permafrost at the site of Pazyryk in Siberia, where they were recovered by Soviet excavators. Aside from the very fact of their preservation, what is amazing about the finds from Pazyryk is that they represent not only supreme technical achievements but also a broad range of textile technologies combined with an extraordinary stylistic diversity that is likely indicative of a mixture of local and imported products (discussed by Karen Robinson; see bibliography). Deposited in tombs that date to around the time of the conquests of Alexander in the fourth century BCE, the materials found at Pazyryk represent a sophisticated amalgam of



Details of a fourth-century wool textile that blended court and nomadic styles in textile design. The lions (*below*) are marked by varicolored muscular stylization. The human figures (*above*) are derived from Achaemenid prototypes. The textile was found in tombs at Pazyryk, Siberia. SERGEI I. RUDENKO, *THE WORLD'S MOST ANCIENT ARTISTIC CARPETS AND TEXTILES* (1968)



court and nomadic styles, drawing on Eastern and Western artistic traditions known from the arts of the Near East and Far East, from the Persian Achaemenid realm to the northern reaches of Siberia and east to China.

Recent archaeological finds at several early Neolithic sites are extending our knowledge of textile production into prehistoric periods: Jarmo in Iran, Çatal Hüyük (pronounced Chatal Huyuk) in south central Anatolia, Hajji Firuz in Iran, and Naḥal Hemar cave in Israel have yielded a broadly defined assemblage of artifacts made of fibrous materials manipulated by hand, which reveal an extraordinary variety of textile structures indicative of diverse techniques and functions, some with clear decorative intent. (C-14 analysis of textile finds at Çatal Hüyük has pushed the earliest examples to the eighth millennium.) Methods of manufacture recovered to date include the spinning and plying of yarns, twining, plaiting, bundling and wrapping of cords, and interlacing sequences suggestive of weaving and basketry. The cache of textiles from burial contexts at Çatal Hüyük reveals the use of flax, mohair, and wool, utilizing both S- and Z-spun yarns (see under “spin” in glossary), some with double ply (two yarns twisted together). The materials were burned, with no color evident. An argument has been put forward to suggest the presence of kilims at Çatal Hüyük, based on speculative interpretations of fragmentary wall paintings. But this relies upon the assumption of a long tradition of continuity in the visual symbolism of Anatolia associated with theories about the continued cultural dominance of the mother goddess. Further to the east, on the western slopes of the Zagros Mountains at Jarmo, impressions on small clay objects of two types of fabric, reed matting, and basketry were retrieved. And from the Naḥal Hemar cave above the Dead Sea have come the fragmentary remains of linen textiles, including an elegant net headdress, presumably ceremonial.

Between the Early Neolithic and imperial Rome, textile remains are few and scattered. From the third millennium come the remains of textiles from a variety of sources. Numbers of peg figures from foundation deposits in Mesopotamia, dating from the Third Dynasty of Ur, were found wrapped in plain-weave fabrics, including several from the temple constructions of Ur-Nammu (Ekur) and Shulgi (Inanna Temple) at

Nippur (Nuffar). Several such figures, with traces of cloth wrapping, have also been noted from the time of Eannatum at Lagash. In Iran, textiles were buried in association with copper weapons at Susa, Sialk, and Tepe Hissar; analysis of the remains or impressions suggests that linen was the preferred fiber. Of an earlier date is the proto-Elamite silver sculpture of a kneeling horned animal to which traces of a plain-weave fabric were adhering when it was acquired by the Metropolitan Museum of Art, New York. From the earliest use of seals in fourth-millennium Mesopotamia are preserved the impressions of textiles, which often remain visible on clay sealings, or “bullae,” of jars, the contents of which were secured or covered by a textile.

Little information comes from Bronze Age sites in the Near East, although much may be derived from representational sources (see below). From Iron Age levels, somewhat more evidence is forthcoming. At Gordion in west central Anatolia a number of textile fragments have been retrieved in excavation, mainly from burned buildings. From the 1988–1989 season of excavation came one well-preserved piece of fabric that seems to have been on a loom when early Phrygian Gordion was destroyed by fire around 700 BCE. It was described by the excavator as having an ivory comb stuck through the warp, with unwoven threads on one side and woven fabric on the other. In the same room were loom weights of clay with thread running through some of them. A line of weights against a wall suggests that they probably served a warp-weighted loom stored there; a piece of oak (from the loom?) also turned up. In the same room a total of eighty-nine weights was recorded, with many spindle whorls stored in pottery jars. Ceramic weights, presumably for use on looms, were also found in several Early Iron Age buildings of about 1000 BCE, as well as a tiny textile impression identified as *soumak* (a supplementary weft-wrapping structure). In Iran, from around 800, were found several charred textile fragments at Hasanlu. These show S- and Z-spun, single- and double-ply yarns, looped pile, and tassels. These materials were found in burned public buildings or associated with burials. Finds reported from other Iron Age levels in Iran include a plain-weave fabric and decorative thread on bronze disks found in the grave of a young girl at Haftavan Tepe; scraps of fabric,

cords, bands, and impressions of textiles from Marlik; impressions of cloth on a mirror found at Dailaman; and a few charred textile fragments preserved by contact with metal from a destruction level at Dinkha Tepe. It has also been suggested that the painted ceiling tiles from Baba Jan derive directly from textile patterns, for the contemporary ceramic assemblage does not share the same design repertory.

For whatever reasons, textile finds of Roman date have been far more prolific than from any other period. What has come to light is not only an array of textile fragments with stripes, plaids, and small repeated woven patterns, in a plentiful range of fabric structures, including many varieties of pile, but also a full spectrum of dyed colors. Extensive assemblages representing a wide range of techniques come from disturbed levels in the caves of al-Tar, Iraq. Earlier finds in large numbers, particularly well known for their colorful designs and patterns, come from two sites of the early first millennium CE in Syria, Dura-Europos (modern Salahiyyeh) and Palmyra (biblical Tadmor). The site of Shahr-i Qumis in northeastern Iran, with remains of Parthian and Sasanian date, has yielded a selection of very simply designed garments using undyed brown and white wool.

Roman textiles provide an exceptionally rich assemblage of materials for the study of pattern. Clearly, artisans of the later Roman Empire in the Near East were well equipped to play with pattern, to experiment with the repetition of geometric shapes, to explore aspects of reciprocity of form, and to compose visual themes with variations that are expressed in both textiles and mosaics. The role of Late Roman textiles as purveyors of meaning through imagery is evident from examples in which mythological scenes, allegory, and metaphor are present, often relying on classical iconography.

Vast quantities of extant Late Roman textiles and fragments (now numbering in the thousands) are today found in many museum collections. These materials were presumably retrieved from graves in Egypt, where the dry climate helped to preserve the fragile organic textile fibers. Although not obtained from systematic excavations of archaeological sites, the sheer quantity of these materials with figural imagery has skewed the study of ancient textiles, which until the 1970s focused almost entirely on textile

fragments from Egypt, variously designated "Late Roman," "provincial Byzantine," or "Coptic."

Textile materials in earlier archaeological contexts have recently begun to receive more attention, in part due to efforts of the newly established Textile Research Centre in Leiden, whose objective is to promote the academic study of textiles, especially those of archaeological and anthropological value. An associated semiannual publication, *Archaeological Textiles Newsletter*, begun in 1985, has become a forum and clearinghouse for preliminary notification of textile finds from around the world. Thousands of textile fragments are being recovered each season at sites along the Red Sea coast of Egypt and the Sudan. Although these date from Roman and post-Roman times, they pertain, it seems, to daily life. The rate of retrieval leads one to the not-unrealistic expectation that if more care is taken in both identification and recovery, far more information may be derived from textile finds elsewhere in the future.

Physical Evidence: Related Materials

Information about textiles may be gleaned from the presence and implications of nontextile finds that pertain to textile production. The series of weights, for example, found in a row on the floor at Gordion suggest the presence of a vertical warp-weighted loom. Likewise, numbers of large beads with a single hole may suggest that spinning was practiced locally on a drop-spindle. It is conceivable that some beads, particularly those with a circular groove, may have served as bobbins for the weaving of tapestry. From Tell Raqai in Syria, to name but one site, have come numerous biconical clay spindle whorls; hemispherical whorls made of clay, bone, and stone; larger circular forms with a hub; and a group of pierced potsherds chipped into a circular form, all of which presumably served technological functions in textile production locally. Ancient weaving implements of wood have generally not survived, but those of bone or ivory (such as combs with which to beat the weft down by hand) imply the presence of wooden artifacts, a suggestion seconded by modern ethnographic parallels.

From burials of individual women in Bronze Age Turkmenia has come an unusual series of

knives similar to those used by pile-carpet weavers today in the same area. This evident parallel has led to an assumption of cultural continuity east of the Caspian Sea that points to carpet weaving in the Bronze Age, which is otherwise undocumented. In Median levels at Tepe Nush-i Jan in Iran (Iron III, second quarter of the first millennium BCE) were found slim bone knives in association with loom weights, suggesting possibly that they were used as beaters in the weaving process.

Another interesting speculation pertains to the origin, use, and intent of Assyrian wall plaques with terra-cotta pegs or projecting knobs, perhaps related to other interior fixtures of earlier date in Mesopotamia. One scholar has proposed that they served for the suspension of tapestries or wall hangings in the palace, based on the fixed intervals at head or shoulder height of the ninth-century concave Neo-Assyrian plaques.

As these examples show, the study of tools and implements pertaining to the fabrication of textiles or to their functions may yield additional technological or sociological information with implications for the resulting textile objects and their use.

Written Evidence

One would expect the extent of written evidence for textiles in antiquity to contribute to a visual study of the textile arts. But while much was written in antiquity about textile production, precious little can be linked directly to physical remains. Where textiles are mentioned, it is primarily in economic contexts of textile production, industrial organization, and trade, or in documents such as marriage contracts, dowry lists, and other enumerations of household items. Particularly fruitful in providing extensive documentation for textile production and trade are the textual sources from mid-third-millennium Ebla, Sumer at the end of the third millennium (Ur III), and Mari in the eighteenth century BCE. Texts from the early-second-millennium Assyrian trading colony at Kanesh (modern Kültepe) document Assyrian trade in textiles with Anatolia. Within these documents, there are numerous terms for fabrics, garments, styles, and names of specific objects, sometimes giving

a provenance. But it is often the case that many such terms cannot be translated definitively or be confidently correlated with material remains or representations of textiles. This situation is frustrating for the scholar of textiles in antiquity, but it pertains even in later periods for which both historical documentation and physical remains of textiles are plentiful.

Several works attempt to surmount these barriers, including articles listed in the bibliography. While many proposed translations remain tentative, at least the words are associated in one way or another with textile processes and products. Many ambiguities are yet to be addressed. A single Sumero-Akkadian determinative marks both “cloth” and “clothing,” for example, so that terms presently translated as “garments” may in fact refer to other textile products. But the written records establish beyond any doubt the richness of vocabulary in textile terminology in ancient languages of the Near East.

Focusing on the dyeing industries of ancient Israel, and specifically on the identification of the sources for *argaman*, or “royal purple,” and *tekhelet*, or “biblical blue,” Ehud Spanier’s volume combines scientific analyses with archaeological documentation and scholarly discussion, which may serve as a model for future studies. The variety of evidence presented in *The Royal Purple and the Biblical Blue* demonstrates the difficulties of connecting physical and written sources.

Clearly, textiles in historical antiquity played a major role, as they do today, in local and regional economies. We have ample written evidence to suggest extensive production and trade in textiles in all periods and over long distances. The production of textiles was highly organized for commercial purposes and often controlled by palace or temple enterprise. Other textile production was conducted at home in the domestic environment. Clay tablets recovered from many sites (e.g., Chagar Bazar, Mari, Ebla, Nineveh, Isin [Ishan Bahriyat], Girsu [Tello], Ur, Nippur, Kanesh, Nuzi [Nuzu, modern Yorghun Tepe]) provide extraordinary documentation of the variety and importance of textile production and trade throughout the ancient Near East, although our understanding of technical terms is yet to be refined, and even general references may still await clarification.

Representational Evidence

While the physical remains of ancient textiles only hint at functional uses and written sources are inadequate to provide descriptive links to extant materials, representational sources are

somewhat more revealing. A curious paradox, however, hampers our ability to fully utilize representational sources: there seems to be a contradiction between the assumed and textually supported pervasive use of textiles throughout

Sartorial Pique

Among the many letters exchanged between King Zimri-Lim of Mari and his officials (circa 1770 BCE), three are concerned with an order for garments the king wanted to use at a forthcoming ceremony. The first letter, is one of two that carry the king's order (the other is not well preserved) and it is published by O. Rouault as text No. 6 of the *Archives royales de Mari* 18 (1977). The second letter, published by J. Bottéro as *Archives royales de Mari* 13 (1964), No. 10, gives the reply of a palace administrator named Mukannishum. Zimri-Lim's angry answer, published by O. Rouault in *Iraq* 39 (1977), p. 151, is given in the third letter quoted. This final letter is verbose, not surprisingly given the anger of the king and I have simplified to keep it readable. Worth noticing is how the king does not quote accurately Mukannishum's letter (No. 2).

Addu-duri, who is mentioned in two letters, was a close kin of the king (mother or aunt) and played a major role in palace life.

King Zimri-Lim to Mukannishum

With regard the *tadditum*-style garment about which I had written you, this garment should attractively be provided with a *ruffle*. Its *ruffle* should be 6 fingers (10 cm.) long, so that when stretched out it pulls to 6 fingers but when released it pulls back to 3 fingers. It should be given an attractively fashioned *pleat*.

Moreover, as it is with a *khalu*-style garment, its *ruffle* should be removable.

Get very busy with this garment.

Mukannishum to his lord, King Zimri-Lim

With regard the *tadditum*-style garment about which my lord spoke, I have woven one, but there is no longer good quality wool at my disposal.

There is a sack of wool from Babylon that has my lord's seal on it, but there is no first-quality wool for/ because of the *gift*(?) of the Upper Country.

My lord ought to write to Addu-duri so that this sack could be opened in her presence and the fullers could select the needed wool.

King Zimri-Lim to Mukannishum

I had instructed you to make a *tadditum*-style garment, but as of now this garment has not been made. But now you wrote to me saying,

The wool necessary for this garment is in short supply. However, since there is a [leather] sack of wool from the king of Babylon, my lord ought to write for this sack to be opened in Addu-duri's presence and for me to be given the amount of wool wanting for the garment.

That is what you wrote me.

What is this that all of you are constantly proposing about the king of Babylon's wool and [why] are you bothering me? In the past, during the reigns of Kings Yakhdun-Lim, Shamshi-Adad, and Yasmakh-addad, when it came to the king of Babylon's wool, would people hold it back and not make them their wardrobe?

This wool may not be available; but is there not enough wool in what was sheared for the palace—as much as there is of it—to select what this garment requires? Now don't you worry about the king of Babylon's wool. Rather, select the quality wool necessary for this garment just from among the wool available from the shearing for the palace, or deal with it in the best possible way. Collect the wool needed for this garment, so that this garment can be made promptly. . . . Furthermore, give strict orders to the male and female weavers: this garment, like one in Tuttub-style, must be chosen and knotted to have attractively made warp and woof. Let the inner part ["heart"] of this garment be like leaves of silver. This garment should have Yamkhadian-style *sequins*(?) set upon it. Moreover, the *embroidery* should be provided it, as if it were a *khusshu*-quality fabric.

Be careful, as regarding the warp and woof for this garment, that the attached *sequins*(?) do not become too heavy and the garment itself unravel. Give strict orders for them to be very careful with this garment. It must be presented before the arrival of kings from all over the land. Act so that there could be no blemish whatsoever to this garment.

Translations and commentary by J. M. Sasson

the ancient Near East and the relatively sparse presence of textiles other than garments in the representational arts of the ancient Near East. There are several possible explanations for this apparent paradox. First, the very process of representation itself and the uses to which it is put are selective. Second, what textiles themselves convey by way of fabric structure, pattern, color, drapery, and construction is often omitted when textiles are transferred to another medium for the purposes of illustration. Entirely lacking in any representation of a textile are the unique and diagnostic relationships among design, structure, technology, and pattern. Furthermore, textiles were often treasured for particular physical properties, such as responsiveness to light, temperature, and movement, and these properties were utilized in the construction of dress and functional fabrics. But the same qualities could not be depicted in any medium other than textiles. Thus, it seems that in the art of the ancient Near East, textiles may have been found wanting, unsuitable for the primary artistic function of representation.

Visual images, in general, must convey meaning in order to be successful. The most obvious use of textiles to convey meaning in representational art is through the depiction of clothing. In fact, the absence of clothing on a figural representation in antiquity seems to be particularly significant. Nakedness in the ancient Near East (as opposed to classical Greece) was used to indicate a status of humility or humiliation. In Mesopotamian art the absence of clothing is what specifically distinguishes prisoners, whether bound by rope, impaled on stakes, or led off by captors. In early representations (such as the Warka vase and several Early Dynastic relief plaques), nakedness may signal humility on the part of supplicants or those bringing offerings. In other instances, nakedness signifies a lack of civilization, as in the story of Gilgamesh, in which the process of civilizing Enkidu is expressed visually and metaphorically by dressing.

Most notable for the representation of textiles are the lines, curves, and forms assumed by the drapery of a fabric, aspects that Greek artists explored in the fifth and fourth centuries BCE. Curiously, it is this phenomenological representation of style that has enabled scholars to make incremental chronological distinctions in the

study of ancient Greek sculpture. In contrast, in the ancient Near East, more often than not, it was the cut of a garment and the depiction of its edges when wrapped around the body, rather than its drapery, that were selected for representation. Less frequently selected for depiction, particularly on textiles other than garments, was the pattern or repetition of designs. This is perhaps a function of scale, and the problems inherent in the transfer of small-scale patterns to smaller-scale representations. Very possibly, the relative lack of representation of patterned textiles reflects a recognition in the ancient Near East that textile patterns could not very well convey meaning in a representational form. Whatever meaning may have been conveyed by textiles in their primary setting, that significance had to be conveyed by other means in the representation of those settings. Perhaps in certain instances it was not the textile object itself that was significant and meaningful but what it conveyed by color, pattern, and form, and its use in a particular setting. This corresponds, in general, to the characteristically functional aspect of visual arts in the ancient Near East, in which form is clearly intended to convey meaning. In light of this, it is interesting to note that the representational arts of the ancient Near East, whether wall paintings, stone reliefs, carved ivory, cylinder seals, or metalwork, reveal a surprising absence of textiles other than garments.

Nonetheless, there do exist representations of textiles that provide indications as to how and when particular kinds of textiles were used and by whom. And representations of textile technologies may offer information specific to the nature of ancient looms. Illustrations of looms appear on early Mesopotamian seals and ceramic vessels and in Egyptian wall paintings and tomb models. These provide important documentary evidence that confirms the archaeological record and contributes to our understanding of loom construction in the ancient Near East and Egypt. In particular, there is clear evidence for the importance of the warp-weighted loom, which is suggested both by the use of stone or ceramic loom weights and by charred remains of the horizontal beams of a vertical loom. From Egypt, the wooden model of a weaver's house shows a horizontal ground loom and several women at work weaving and preparing yarns,



Bitumen-compound relief showing a lady spinning, which was found at Susa, Neo-Elamite period. Scholars have debated the significance of the scene—whether it is of a banquet or of a religious event in which the spindle and fish are being offered by the weaver to a deity. METROPOLITAN MUSEUM OF ART, NEW YORK

providing evidence of processes associated with the manufacture of textiles, such as spinning and winding the warp prior to weaving. The use of a horizontal ground loom and a drop-spindle may be recognized in a tomb painting at Beni Hasan. A drop-spindle is also represented in a fragmentary relief from Susa, in which a woman is shown seated on a stool as she spins. In each of these instances, it is, of course, impossible to

ascertain the geographic range or temporal span of the practice represented. In certain cases, ethnographic evidence is brought to bear in the interpretation of representational sources, both in developing arguments of continuity to the present and in reconstructing ancient practices, as in the case of Grace Crowfoot's study drawing on her observation of the preparation of yarns in Egypt and the Sudan.

As social indicators, the few extant representations of richly patterned cloths seem to be reserved for royal or cultic settings. Thus, they probably signify the epitome of luxury and comfort. Such may be the case, for example, in the depiction of textiles at the victory banquet of Assurbanipal in a relief from Nineveh. When horses are depicted engaged in a hunt or in war on Assyrian reliefs, it is often those specifically pertaining to the king that are shown draped with elaborately patterned covers. In the case of Assurbanipal, on an alabaster relief from the north palace at Nineveh, his horses are richly caparisoned, decorated with covers and tassels, showing dangling trappings in multiple tiers. Similarly, in celebratory settings, it is the king's table, but not those of his associates, that receives the additional attention of draped or decorated textiles. In the case of Assurbanipal's victory banquet, his immediate environment shows covers, cushions, napkins, and cloth coverings, and his personal attendant carries a folded cloth over his arm. In the reliefs of Sargon II at Khorsabad, a cloth seems to be draped over the back of a throne in transit; similar throne



Alabaster relief displaying Assurbanipal's horses in fringed textiles and tassels from the North Palace at Nineveh, seventh century BCE. BRITISH MUSEUM, LONDON

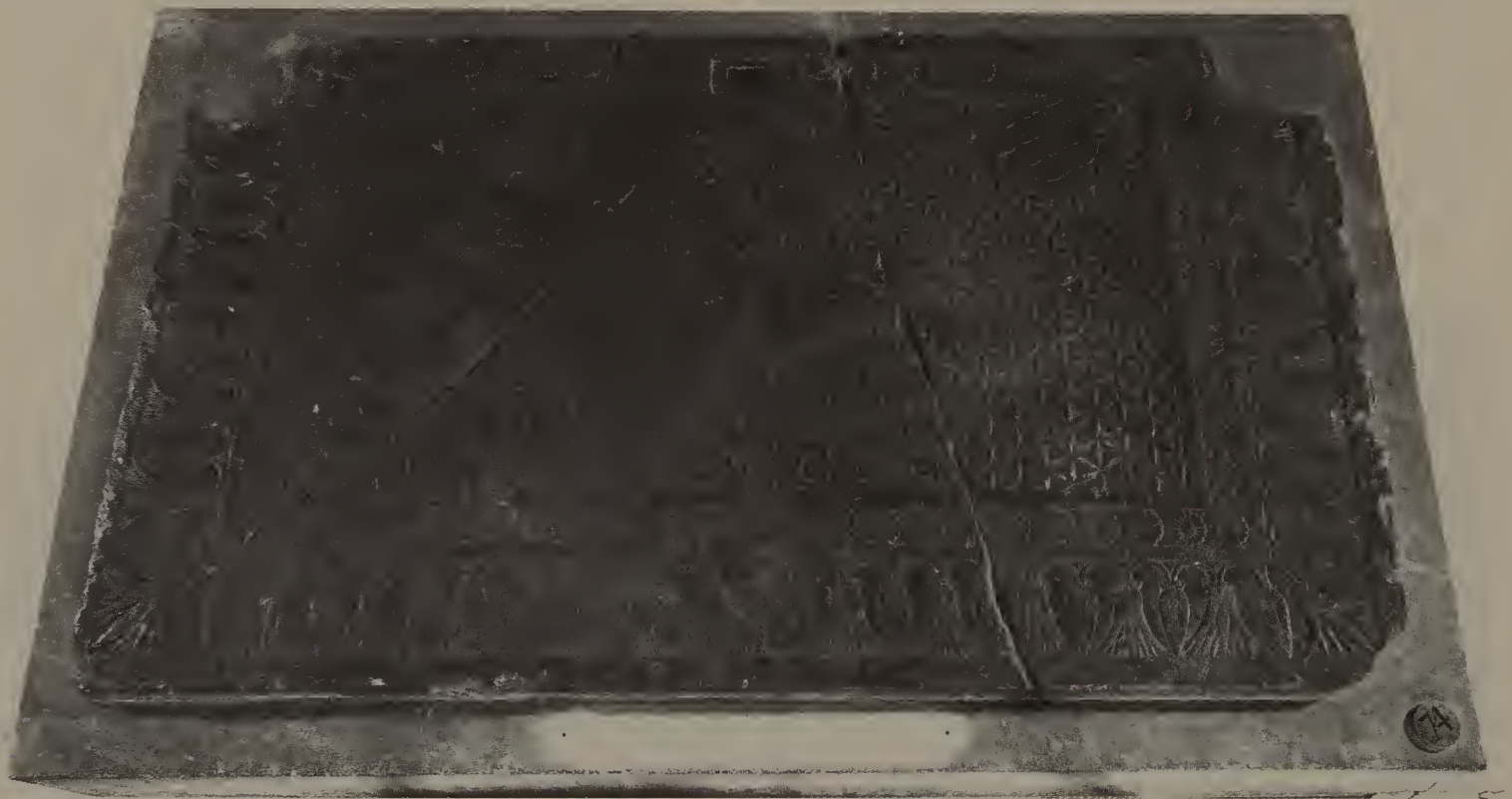


Drawing of a wall painting showing throne drapery, from the palace of Tiglath-pileser III, Til Barsip, eighth century BCE. LOUVRE MUSEUM, PARIS

drapery occurs in several other royal settings, seen for example in the paintings at Til Barsip (Tell Ahmar) of the eighth century BCE. Do these examples suggest that the representation of textiles associated with the king, for his personal comfort or visual delight, are a function of artistic

patronage? Or do these representations illustrate accoutrements specific to the king and therefore expressive of royal prerogative?

In the palace of Zimri-Lim at Mari is a wall painting, the upper and lower borders of which suggest the depiction of a series of tassels, per-



Sculpted threshold from an Assyrian palace that may illustrate a carpet. LOUVRE MUSEUM, PARIS

haps again signifying royal use of textiles in palace decoration. Other royal associations are conveyed by the depiction of awnings, canopies, and parasols defining royal spaces in Assyrian and Achaemenid reliefs. These are positioned above the king in procession or in audience, as in the case of Shalmaneser III greeting a visitor (see limestone throne base of Shalmaneser III, Fig. 6 in Part 10, Vol. IV, "Art and Ideology in Ancient Western Asia") or, at Persepolis, Artaxerxes I departing the palace through the Tripylon. Sculpted thresholds in several Assyrian palaces have been likened to carpets. Indeed, their oblong proportions and layout with borders surrounding overall repeat patterns in the central field correspond closely to what we know of later pile carpets in layout and design. And with later carpets they share a careful delineation of space in the subdivision of geometric shapes and a stylized depiction of floral buds and blossoms seen in profile or from above, forms generically referred to as palmettes and rosettes, respectively. (See "Mari: A Portrait in Art of a Mesopotamian City-State" in Part 5, Vol. II.)

A convincing argument citing textiles as visible manifestations of royal power has been put forth by David Stronach, based on a reconsideration of the Pazyryk carpet in comparison to Assyrian, Babylonian, and Achaemenid palace decoration and royal dress. In particular, Stronach stresses the iconographic aspect and prophylactic nature of borders and repeat patterns of rosettes, palmettes, quatrefoils, rayed stars, cone-and-lotus motifs, and striding lions, which appear simultaneously in different media in royal contexts. He argues that these designs, rather than being merely ornamental, served a protective role, surrounding both the image and the presence of the king as seen on thresholds, garments, carpets, throne covers, and baldachins.

A few other significant representations of textiles may be noted in which some kind of specificity is intended, although the reasons remain uncertain. Of unusual clarity in its depiction is a woven basket with handle shown on an alabaster relief of Sargon II from Khorsabad in which the interlacing is carefully indicated. A painting preserved in color on an Assyrian vessel from Ashur (modern Qalat Sharqat) depicts the cloth on the offering table as white. A pair of textiles

with fringes at top and bottom depicted on the Black Obelisk of Shalmaneser III (see relief-carving from the Black Obelisk of Shalmaneser III, Fig. 8, Part 10, Vol. IV, "Art and Ideology in Ancient Western Asia") is shown folded over a pole carried by two men, suggesting textiles with the weight of thick carpets. Other than these exceptions, few textiles depicted in the Assyrian reliefs include any individual details. In Iran the Apadana reliefs at Persepolis depict occasional textiles, including small cloths used to cover vessels held in both hands, suggesting they may be filled with liquid. Both the Apadana reliefs and the Black Obelisk provide important information about the textiles shown, which must have been of sufficient value to serve as tribute or to be taken as booty.

What emerges in this enumeration of depictions of textiles (other than clothing) in arts of the ancient Near East is the apparent increase in their frequency in the first millennium. Of special note may be the several reliefs of Assurbanipal (hunt, libation, banquet) in which textiles figure in relation specifically to the king. What accounts for this remains unclear: Do the increased numbers of such illustrations correlate with increased production of textiles? Or do they correspond to an increased realism in art? Do they reflect increased cultural value placed on textiles at this time? Or do they relate to an increase in ceremonial? In the specific case of Assurbanipal, are they merely a function of the number and range of reliefs pertaining to his reign that have come to light?

There are several representations of textiles that remain enigmatic. For example, the siege engines depicted on the Black Obelisk of Shalmaneser III appear to have their bodies and wheels covered by patterned textiles with fringes that have been cut and sewn to shape. A second example, on the Stela of the Vultures of Eannatum from the mid third millennium, is the net held by Ningirsu in which captives are retained.

Another category of representation in which textiles have figured in scholarly discussion concerns the representation of pattern. Pattern play is recognized, for example, in the cone mosaics of late-fourth-millennium Uruk, on Bronze Age painted pottery, and on roof tiles from Baba Jan in Iran. It is often commented that these patterns

may derive from textile patterns for which we do not have substantive evidence. Such arguments are usually based on assumptions regarding both the perishability and the transportability of textiles and on considerations of their function as a medium of artistic transfer and exchange. But there are in fact no direct links that can be established to document continuities of form and function in the use of pattern in textiles and those in other media. The arguments of transfer are especially tenuous in consideration of woven textile patterns because of the contrast between their two-dimensional appearance and their actual three-dimensional construction.

CONCLUSION

The textile arts of antiquity from the ancient Near East are not difficult to conjure up, although surviving textile remains are scarce. While most of what survives provides but scanty material evidence or postdates Roman imperial expansion, the textile achievements of antiquity are nonetheless extraordinary to contemplate. The same physical properties that permitted the construction of textiles, lent them flexibility, and enabled their adaptability to different circumstances of use contributed to their destruction: organic and made to be used, over time they easily wear out; they may burn, be eaten by insects, or destroyed by natural forces. While textual evidence is voluminous, visual evidence is relatively scarce. Textual sources relate much about production and distribution, but they convey little as to what ancient textiles were actually like or how they were used. Representational evidence is selective and requires scholarly judgment and interpretation to determine what was being illustrated and to ascertain what may have been left out. E. J. W. Barber has compiled diffuse literary and archaeological sources for textiles in Europe and the ancient Near East, with a focus on the Aegean Bronze Age, but there is much still to be learned.

Thinking about textiles and their potential may lead us in many directions. The presence of cotton implies agriculture; the presence of wool implies pastoralism (nomadic or not). The presence of both cotton and wool in a textile or

local assemblage is likely evidence for trade or barter because of the contrasting life-styles usually associated with human adaptation to ecological constraints that inhibit or support either agricultural or pastoral pursuits. The analysis of dyes and stylistic considerations may take us further afield to infer the effects of long-distance trade and foreign cultural influence.

Textile arts cover the broad range of human habitation, from rural to urban, nomadic to sedentary, village to court, portable humble dwelling to imperial palace. They represent a wide range of human activities and endeavors, both for personal use and for economic gain. Throughout the ancient Near East, textiles sustained economies; they served as a basis for economic development; they provided a means of accomplishing economic reform. What we are left with is a grand appreciation of the significance of the textile arts, in terms of not only the objects themselves and the functions they served but also the technologies they represent and the impetus they have provided for production, trade, and economic development. But to envision the textiles of antiquity at this time, we must rely on a very broad synthesis that is tenuous at best. Perhaps this impressionistic picture offers only a poor reflection of reality; surely, it needs considerable refinement, which may only proceed with the careful and critical assessment of sources available or yet to be located, and an appreciation of the complex and diverse paths and alternative routes by which we may approach renewed understanding of textiles in antiquity.

BIBLIOGRAPHY

Textile Technology and Production

A useful introduction to textile technologies is HANS E. WULFF, *The Traditional Crafts of Persia* (1966). For classification and terminology, see IRENE EMERY, *The Primary Structures of Fabrics* (1980); DOROTHY K. BURNHAM, *Warp and Weft: A Textile Terminology* (1980); and JOHN T. WERTIME, "The Names, Types, and Functions of Nomadic Weaving in Iran," in *Yörük: The Nomadic Weaving Tradition of the Middle East*, edited by ANTHONY N. LANDREAU (1978). MICHAEL L.

RYDER, *Sheep and Man* (1983), addresses cultural concerns relevant to wool in the ancient Near East. GRACE M. CROWFOOT, *Methods of Hand Spinning in Egypt and the Sudan*, County Borough of Halifax, Bankfield Museum Notes ser. 2, no. 12 (1931), correlated contemporary local spinning practices with ancient parallels. Once established, textile technologies seem to have changed relatively little until industrialization in the eighteenth–nineteenth centuries CE; thus, relevant and comparative information may be gleaned from postmedieval sources. See, for example, CAROL BIER, ed., *Woven from the Soul, Spun from the Heart: Textile Arts of Safavid and Qajar Iran* (1987), and, for earlier periods, BIER's entry "Crafts," in *Encyclopedia Iranica* (1993); and her chapter "Textiles," in *The Royal Hunter: Art of the Sasanian Empire*, edited by PRUDENCE O. HARPER (1978).

EHUD SPANIER, ed., *The Royal Purple and the Biblical Blue: The Study of Chief Rabbi Dr. Isaac Herzog on the Dye Industries in Ancient Israel and Recent Scientific Contributions* (1987), combines analytical, archaeological, and interpretive studies focusing on Israel's ancient dyeing industries. On this fascinating and colorful subject, see also IRVING ZIDERMAN, "First Identification of Authentic *Tēkēlet*," *Bulletin of the American Schools of Oriental Research* 265 (1987), and "Seashells and Ancient Purple Dyeing," *Biblical Archaeologist* 53 (1990); contra P. E. MCGOVERN, in the *Bulletin* 269 (1988); NIRA KARMON and EHUD SPANIER, "Remains of a Purple Dye Industry Found at Tell Shiqmona," *Israel Exploration Journal* 38 (1988); and "Purple," four articles by WOLFGANG BORN, *CIBA Review*, no. 4 (1937).

For reconstruction of socioeconomic contexts of Iron Age textiles, see DANIEL CROWELL BROWNING, JR., "The Textile Industry of Iron Age Timnah and Its Regional and Socioeconomic Contexts: A Literary and Artifactual Analysis" (Ph.D. diss., Southwestern Baptist Theological Seminary, 1988). See also extensive references to the textile industry in K. R. VEENHOF, *Aspects of Old Assyrian Trade and Its Terminology*, *Studia et Documenta Ad Iura Orientis Antiqui Pertinentia* 10 (1972). For utilization of textual sources of an earlier period, see HARTMUT WAETZOLDT, *Untersuchungen zur neusumerischen Textilindustrie* (1972). Extensive discussion of terms pertaining to garments and their description, and problems in translation, are addressed in EDMOND SOLLBERGER, *Administrative Texts Chiefly Concerning Textiles* (L. 2752), *Archivi Reali di Ebla: Testi* 8 (1986). See also S. RIBICHINI and P. XELLA, *La terminologia dei tessili nei testi di Ugarit*, *Collezioni dei Studi Fenici* 20 (1985), and commentary on this work by JEAN-MARIE DURAND in *MARI* 6 (1990).

ANNETTE B. WEINER and JANE SCHNEIDER, *Cloth and Human Experience* (1989), may broaden our perspectives on the expressiveness of cloth with respect to social issues.

Textile Assemblages

Extant remains of Neolithic textiles and related artifacts are documented and analyzed in J. M. ADOVASIO, "The Textile and Basketry Impressions from Jarmo," *Paléorient* 3 (1975–1977), and TAMAR SCHICK, "Nahal Hemar Cave: Cordage, Basketry, and Fabrics," *Atiqot* 18 (1988). For Çatal Hüyük, see HANS HELBAEK, "Textiles from Çatal Hüyük," *Archaeology* 16, no. 1 (1963); M. L. RYDER, "Report of Textiles from Çatal Hüyük," *Anatolian Studies* 15 (1965); HAROLD B. BURNHAM, "Çatal Hüyük: The Textiles and Twined Fabrics," *Anatolian Studies* 15 (1965); and GILLAN M. VOGELSANG-EASTWOOD, "A Re-Examination of the Fibres from the Çatal Hüyük Textiles," *Oriental Carpet and Textile Studies* 3, pt. 1 (1987).

For elaboration of Bronze Age developments, E. J. W. BARBER has compiled an impressive corpus of literary, archaeological, and visual evidence in *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages, with Special Reference to the Aegean* (1991). MARIE-THÉRÈSE BARRELET, "Un Inventaire de Kar Tukulti Ninurta: Textiles décorés assyriens et autres," *Revue d'Assyriologie et d'Archéologie Orientale* 71 (1977), attempts to relate a textual description of textiles with visual sources in Mesopotamia. For Iran in the first millennium BCE, see TRUDY KAWAMI, "Archaeological Evidence for Textiles in Pre-Islamic Iran," *Iranian Studies* 23, nos. 3–4 (1994). For the Pazyryk textiles in particular, see KAREN S. RUBINSON, "The Textiles from Pazyryk: A Study in the Transfer and Transformation of Artistic Motifs," *Expedition* 32, no. 1 (1990). For the Pazyryk carpet, see HARALD BÖHMER and JON THOMPSON, "The Pazyryk Carpet: A Technical Discussion," *Source: Notes in the History of Art* 10, no. 4 (1991). For a refreshing interpretation of its meaning in the context of other textile arts of the first millennium BCE, see DAVID STRONACH, "Patterns of Prestige in the Pazyryk Carpet: Notes on the Representational Role of Textiles in the First Millennium BC," *Oriental Carpet and Textile Studies* 4 (1993).

A good general introduction to the study of ancient textiles, focusing on the Roman Empire and European developments, is JOHN PETER WILD, *Textiles in Archaeology*, *Shire Archaeology* 56 (1988). See also the works of GILLIAN M. VOGELSANG-EASTWOOD, "Textiles Available from Middle Eastern Sites," *Dyes on Historical and Archaeological Textiles* 1 (1982), and *A Brief Guide to the Cataloguing of Archaeological Textiles*

(2nd ed. 1984); for the largest single body of material from the ancient Near East, see her "Pharaonic Egyptian Clothing," *Studies in Textile and Costume History* 2 (1993).

Carpets in Antiquity

On Assyrian carpets, interpretations based on representational sources are offered by PAULINE ALBENDA, "Assyrian Carpets in Stone," *Journal of the Ancient Near East Society* 10 (1984), and STEPHANIE DALLEY, "Ancient Assyrian Textiles and the Origins of Carpet Design," *Iran* 29 (1991), who considers textual sources as well.

Texts and Textiles

Several authors have attempted to interpret the visual aspect of written descriptions of textiles. See, for example, M. E. VOGELZANG and W. J. VAN BEKKUM,

"Meaning and Symbolism of Clothing in Ancient Near Eastern Texts," in *Scripta Signa Vocis: Studies About Scripts, Scriptures, Scribes, and Languages in the Near East, Presented to J. H. Hospers*, edited by H. L. J. VANSTIPHOUT, K. JONGELING, F. LEEMHUIS, and G. J. REININK (1986); JACOB MILGROM, "Of Hems and Tassels," *Biblical Archaeology, Review* 9, no. 3 (1983); W. R. MAYER, "Mardatu 'Teppich,'" *Ugarit-Forschungen* 9 (1977); and MARC VAN DE MIEROOP, *Crafts in the Early Isin Period: A Study of the Isin Craft Archive from the Reigns of Išbi-Erra and Šu-ilišu*, *Orientalia Lovaniensia Analecta* 24 (1987). For other works linking textile terms to processes and products, see PIOTR STEINKELLER, "Mattresses and Felt in Early Mesopotamia," *Oriens Antiquus* 19 (1980), and SYLVIE LACKENBACHER, "Un Texte vieux-babylonien sur la finition des textiles," *Syria* 59 (1982).

SEE ALSO **Furniture in Ancient Egypt** (Part 7, Vol. III) and **Furniture in Ancient Western Asia** (Part 7, Vol. III).

Cylinder Seals and Scarabs in the Ancient Near East

HOLLY PITTMAN

SEALS AND SCARABS are known in great numbers from many of the cultures of the ancient Near East. This is because they are small, made of durable materials, and were apparently a rather common possession in many periods of their more than three-thousand-year history. Despite their small size, seals and scarabs have contributed much to our understanding of ancient cultures. Through the images engraved on seals, it has been possible to construct an essentially unbroken, if partial, history of both their stylistic and iconographic features. As objects, seals were charged with meaning and thus were used as badges of authority, office, and status. They served as votive and funerary offerings, as gifts to the gods and to the dead, and as protective and magical amulets. Because seals were important tools of economic and legal administration, the patterns of their use give us insight into such procedures. And finally, as artifactual traces of past civilizations, they provide evidence, both directly through their distribution and indirectly through their imagery, for the ancient patterns of contact and influence between near and distant centers.

At the outset, it is useful to consider briefly what a seal is or, more accurately, what it does. Most fundamentally, the noun "seal" refers to an object with which to accomplish an act or to convey a status. In our usage, the verb "to seal" means to secure the closure of something, to

lock; alternatively, it means to authorize or to authenticate. This action is accomplished through a seal, a device that makes a distinctive mark associated with a particular meaning. According to this definition then, we determine whether an object from antiquity was really a "seal" not just because it bears an engraving but also because the marks it made when used carried meanings understood by an ancient community. Frequently, however, this narrow definition of "seal," both in antiquity and now, encompasses a broader category of engraved objects, some of which were never used to make significant marks but performed other important social roles as symbols or emblems and as amulets or talismans.

The most basic feature associated with seals is the capacity to make a recognizable mark, even if this potential was never fully exploited. Most often, the mark-making pattern was engraved onto the surface of the seal, although there are a few examples of patterns that were rendered in relief. The process of engraving, sometimes called "intaglio," is derived ultimately from the Latin *intaliare*, meaning "to cut." From Greek *glyphein*, "to carve," comes the noun "glyptic," which likewise refers to the process of engraving. When used as an adjective, as in "glyptic art," the term refers to a broad category of small engraved objects. Any material rigid enough to retain the carved marks could, in theory, be used

to make seals. Indeed, we have ancient seals carved from unbaked clay, from wood, and from bone and both cast and carved in metal; but by far the most common material used to make seals was stone.

The term “seal” refers to the instrument, while the resulting mark and the material into which it is made are together referred to as a “sealing.” Today, the seal of a customs agent is pressed into lead plugs that constitute the sealing; the seal of a notary is usually a pair of metal matrices between which squeezed paper becomes permanently embossed. In the ancient Near East, until the first millennium BCE, it was not paper or lead but clay—ubiquitous as a resource in Mesopotamia—that received the impression of seal images. From their use, then, it is natural that the images and inscriptions engraved on the seals have been preserved for us in two different forms. One is as the seal itself. Only a small percentage of seals have a well-established archaeological provenance, because such a high percentage are acquired on the open market. Among the documented examples, we know that seals are found in all types of archaeological deposits—from graves, from remains of houses and trash heaps, from temples where they were deposited as gifts. Seals have been found singly or in hoards, gathered not as official or personal seals but as objects collected for their intrinsic value. The other mode in which the images engraved on the seals are known to us is through the ancient impressions they made on clay sealings and tablets. In this form, only the imprint of the carving on the seal is preserved, but it is through such evidence that we can study some of the ways in which the seals were actually used.

These two modes of preservation offer us different information. For example, the date or cultural origin of a seal stone cannot be determined solely on the basis of its archaeological context. This is because seals, having particular social and economic value, were sometimes kept for long periods of time as family or dynastic heirlooms or were passed as exotica beyond the limited circle that used them administratively. The ancient impressions of seals are usually considered better indicators of date and cultural specificity, because such impressions would be discarded after their administrative function had been accomplished. Only in special instances

were much older seals or “foreign” seals impressed on documents. This is true of the dynastic seals known from Ugarit (modern Ras Shamra) and Emar (modern Meskene) in the Levant. The most striking instance of this are the three seal impressions on the treaties of succession that Esarhaddon made with his eastern vassal states (see the box, “How to Read a Seal Impression”).

TYOLOGY: STAMPS AND CYLINDERS

Two forms of seals were common in the ancient Near East. The earliest, most long-lived, and most widespread is the stamp seal. The other is the cylinder seal; this was used primarily by literate civilizations, most of which used a broad variety of cuneiform scripts. The stamp seal has a flattish or slightly convex surface into which abstract designs or figural representations are carved (fig. 1). Stamp seals were made in many shapes: square, round, biconical, irregular, or even representational. Usually, stamp seals would have a loop or a hole through which a line for suspending the seal could pass. Scarabs, used in Egypt and in the Levant, are one of several distinctive types of stamp seal (see below).

Cylinder seals worked according to the same principle as stamps. The surface was engraved, and when put to use, a seal would be impressed into malleable clay (fig. 2). But as implied by its



Fig. 1. Stamp seal with caprid, or goat, from northern Syria or southeastern Anatolia, circa 3000 BCE. METROPOLITAN MUSEUM OF ART, NEW YORK



Fig. 2. Cylinder seal in the process of making an impression on a wet piece of clay. The impression shows a kilted Ibni-Amurru, son of Ilima-akhi, standing before deities. BRITISH MUSEUM, LONDON

name, a cylinder seal was not carved on its flat ends (those are called stamp cylinders) but rather across its curved cylindrical surface. The curved surface presented a far more difficult challenge to the carver, but it also offered several advantages. First, through the action of rolling rather than stamping, it was possible to cover efficiently with images a large area of sealing material. This facility was particularly exploited during the earliest period of cylinder-seal use. Furthermore, cylinder seals left a continuous impression whose limit was determined by the sealing surface. This band had both decorative and narrative potential that was exploited through the carved images.

THE ORIGIN AND EARLY DEVELOPMENT OF SEALS

The First Stamp Seals

By the seventh millennium, there is evidence for stamped impressions that comes from pre-pottery Neolithic village communities along the Euphrates River. Geometric patterns are preserved in a cementlike gypsum material. But it

is not certain whether this gypsum had been used as a sealing material. The earliest unequivocal evidence for carved objects used systematically as seals comes from Arpachiyah in northern Iraq in levels dated to the Halaf period, around 5500. There, clay tags and round clay disks were found stamped with seals engraved with a series of fine, closely placed incised lines. While no two of the stamps were engraved in precisely the same fashion, it is obvious that the shapes of the seals, not the designs carved on them, are what significantly differs among them. Seven shapes can easily be distinguished: hands, feet, crescents, lozenges, circles, squares, rectangles. Impressions of these differently shaped seals were combined on single clay disks. Given the careful and consistent application of these impressions, it seems obvious that they were applied intentionally and that the combination of shapes must have conveyed pertinent information.

In the centuries following, both in northern Mesopotamia and in Iran, figural images began to appear and were used alongside new, simpler, geometric designs. Along with this addition to the repertory of images, another basic function for seals emerged. Seals also came to be used to

mark clay lumps that secured the fastening of doors and containers, such as jars, baskets, or bags.

By around 4500, both human and animal figures were carved on seals, at first in simple compositions with one to three figures scattered over the surface of the seal. The earliest human figures so engraved were shown wearing animal masks, perhaps representing shaman-like individuals important in society. Some five hundred years later, further elaboration can be detected in the imagery: human figures, no longer disguised as spirits or animals, are shown engaged in a variety of activities: approaching altar-like structures, flanking a large vessel, or copulating. Although their exact meanings are unknown, these images seem to represent important events that took place in the community. Precisely why they would be represented on seals used to protect goods and to lock doors is uncertain. Perhaps they referred to certain rituals or ceremonies that took place in the community, which were tied to the distribution of goods to the community.

The First Cylinder Seals

Although we are never likely to retrieve the first cylinder seal, recent excavations allow us to describe the social environment in which this new, radically different glyptic shape was invented. The earliest archaeological evidence for the use of cylinder seals comes from the trash pits of a small site in southwestern Iran called Sharafabad, where impressions of engraved cylinder seals were found mixed with Middle Uruk pottery dated to around 3700. From slightly later, both at the large site of Uruk (modern Warka in southern Mesopotamia and at Susa (biblical Shushan, modern Shush) in Iranian Khuzestan, we find preserved the full range of administrative documents and tools, including abundant evidence for seals. While locks for the doors of storage rooms and sealings over the cords securing the contents of vessels and other containers continued to be marked with seals, the Uruk and Susa evidence clearly indicates a need to record information that would soon lead to the invention of writing. Cylinder seals are closely associated with that process. By the Late Uruk period (end of the fourth millennium), a complex system of recording was devised that used “tokens” enclosed in hollow clay balls (fig. 3), tablets

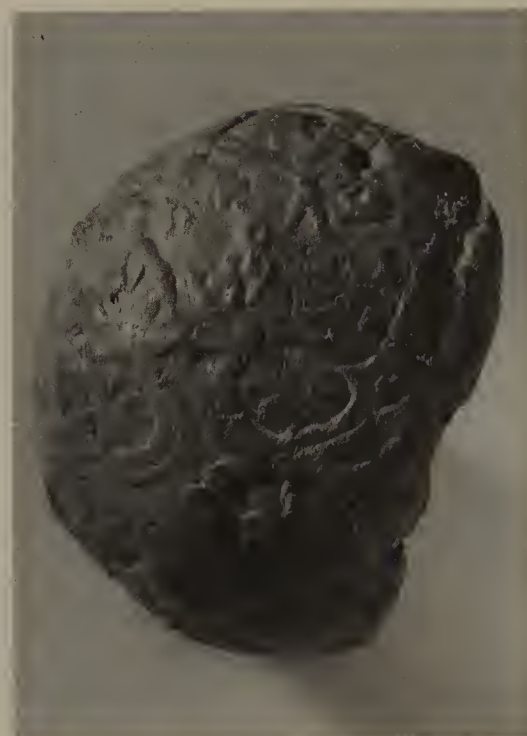


Fig. 3. Hollow unbaked clay ball with multiple seal impressions, Late Uruk period. LOUVRE MUSEUM, PARIS

marked with tally signs, or biconical tags that were probably suspended from containers. All of these devices were impressed on the outside with one, two, or three different cylinder seals.

DISTRIBUTION OF SEALS

During the more than three thousand years in which clay was used as the primary medium for cuneiform writing, the cylinder was the predominant shape for seals. Anywhere that the cuneiform script was used to record the native language, the cylinder seal was also used. Thus, the Hittites of Anatolia, the Elamites of Iran, and the Urartians in Armenia all used cylinders for administrative purposes. In addition, Egypt, with its hieroglyphic script, and the nonliterate cultures of Bactria in central Asia and the Iranian Plateau also used cylinder seals, particularly during the third millennium and the early part of the second. A lively and original style of cylinder-seal carving also flourished in preliterate Cyprus at the same time.

Although cylinders tended to dominate throughout the millennia, stamp seals are always

used, particularly in the regions surrounding Mesopotamia. Among the Hittites, stamp seals were carved for private, but most notably for royal use. In particular, during the first part of the second millennium, stamp seals were used in the Persian Gulf region and the highlands of Iran. The Indus Valley civilization had a distinctive stamp-seal tradition closely associated with its short-lived script.

In Mesopotamia, cylinder seals fell out of favor only when the Aramaic script, using ink on papyrus, parchment, or leather, began to replace cuneiform toward the middle of the first millennium. More pliable than clay tablets, papyri and leather were rolled and tied by a string or cord, whose knot was kept secure by stamping a seal on wax or clay.

THE MAKING OF SEALS

Although tens of thousands of seals remain, we know remarkably little about the craftsmen who made them. The Sumerian term for seal cutter is *BUR.GUL*; the Akkadian is *purkullu*. It is likely from the consistency of style and iconography that seal cutters worked in workshops, at least in the large centers. It is possible that in some periods, seal cutters traveled from job to job or court to court. In several specific instances, stylistic analysis has allowed scholars to link seals from different locales to a single workshop, perhaps even to a single seal-carver.

We guess that seal cutters shared the same social status as other craftsmen. In a second millennium text from Alalakh (modern Tell Atchana) in Syria, seal cutters are listed among other artisans, such as carpenters, stonemasons, carpet weavers, leather workers, and metal smiths. Another text, this time from the Achaemenid period, tells us that a seal cutter had to serve an apprenticeship of at least four years. (See "Artisans and Artists in Ancient Western Asia" in Part 4, Vol. I.)

Attempts have been made to reconstruct the tool kit used by seal carvers both from archaeological finds and from the traces of tool marks left on the seals themselves. Archaeologists working in Mesopotamia, Syria, and Iran have found what they identify as tools for manufactur-

ing seals or, as likely, stone beads for jewelry that were found together with seal blanks and chipped-stone debris. The relatively soft stones, calcites, limestones, and steatites, would have been drilled or engraved with tools made either of chipped stone or of copper (fig. 4). At Shahr-i Sokhte in eastern Iran, a place through which large quantities of lapis lazuli from the Hindu Kush must have passed, worn stone drills and masses of chips of worked stone were found over large areas of the site. At the end of the third millennium, bronze was apparently introduced into the tool kit of the seal cutter. During all periods, an abrasive such as emery or sand was used to perform the actual cutting of the stone.

The bow drill, clearly represented in tomb reliefs of Old Kingdom Egypt, was the most common tool used for cutting seals (figs. 5). Analysis of the tool marks remaining on the seals suggests that the horizontal lathe and the cutting disk were also important tools for seal carving from early in the third millennium.

The most common material used for seals, either stamps or cylinders, was stone, but other materials, including metals (particularly copper or bronze, silver, and gold), were also used. Seals are also known to have been cut from bone or ivory, particularly in the Levant, where a number are preserved from the middle of the third



Fig. 4. Drawing of detail from a wall relief in the Tomb of Ty, Saqqara, of a craftsman drilling a hole in a cylinder seal, Fifth Dynasty. HOLLY PITTMAN, *ANCIENT ART IN MINIATURE: NEAR EASTERN SEALS FROM THE COLLECTION OF MARTIN AND SARAH CHERKASY* (1986).

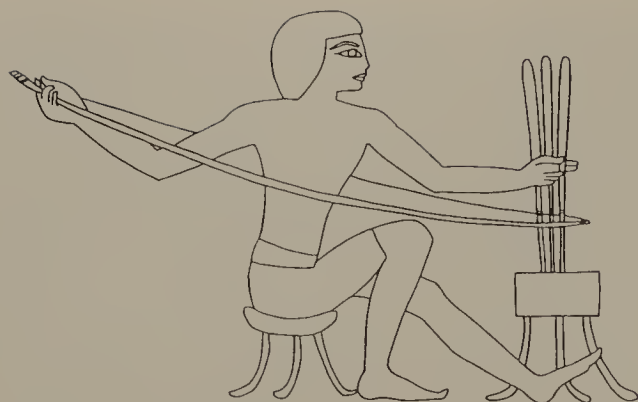


Fig. 5. Drawing of a detail from a wall painting in the Tomb of Rekhmira from Theban Necropolis, Eighteenth Dynasty. Here a craftsman is drilling beads by pushing a horizontal bow that in turn rotates the spindles holding the drill bits. HOLLY PITTMAN, *ANCIENT ART IN MINIATURE: NEAR EASTERN SEALS FROM THE COLLECTION OF MARTIN AND SARAH CHERKASY* (1986)

millennium. Another material used occasionally was clay, either baked or unbaked.

The most common stones used for seals during the fourth and third millennia were dark-green or gray steatites, serpentines, and limestones or calcites, usually white, pink, or green. One distinctive material used in this early period was the gray-green heulandite for Proto-Elamite seals of the early third millennium in Iran. Toward the middle of the third millennium, lapis lazuli was used for seals for the first time in large quantities. Lapis lazuli is a stone that was prized in antiquity, as it is today, for its deep blue color. For historians, lapis is not only beautiful but it is also a critical marker of exchange and contact, because the only certain ancient source known for it is the Hindu Kush of northeastern Afghanistan.

Colorful, hard stones, green and red jaspers, banded agates, and dark green serpentines were favored in Mesopotamia during the Akkadian period of the late third millennium. Although rock crystal, an extremely hard transparent quartz, was only rarely carved into seals in the earlier periods, the Akkadians used it with some frequency. Indeed, there exist a few examples of rock-crystal seals of the Akkadian period that have suspension holes painted with red and white stripes, a decoration that would have sparkled through the transparent stone. For about six hundred years, from the beginning of the Third Dynasty of Ur period until the fall of the

Old Babylonian dynasty, virtually the only stone used for seals was hematite, the hard, shiny, gray stone found in abundance in the Zagros Mountains. Other stones, including rock crystal, are mentioned frequently in the texts of the Old Babylonian period as gifts between rulers. Color continued as an important factor in the choice of material from the middle of the second millennium, when cryptocrystalline quartz, such as chalcedony, and banded agates were used for the very finest seals of the Kassites, Assyrians, and Babylonians. An often-cited text from the Neo-Assyrian period associated the material of a cylinder seal with the fate of its owner:

A seal of hematite (portends) that man shall lose what he has acquired.

A seal of lapis lazuli (portends) that he shall have power; his god shall rejoice over him.

A seal of crystal (portends) that he shall walk in joy of heart.

A seal of green marble (portends) that (until he comes) to the grave, favor upon favor shall be bestowed upon him.

A seal of carnelian (portends) that the “persecutor” shall not be released from the body of the man.

(After Ferris J. Stephens, cited by Goff, p. 27)

SEAL IMAGERY

While variations in shape and material can be understood for the most part functionally, aesthetically, or economically, the vast range of imagery engraved on ancient near eastern seals is harder to explain. It has been difficult, if not impossible, to discern what factors dictated the choice of certain imagery. In some periods, such as the Uruk period or the Akkadian period, there is a seemingly endless variety found in the imagery; in other periods, both style and imagery are repeated with little variation. Certain themes, such as the combat and the presentation scene, were greatly favored throughout the millennia, while others, such as the battle of the gods and the deity seated on a snake-throne, were used only in specific periods or situations.

During the first five hundred years of seal use in Mesopotamia, that is the preliterate and proto-literate phases until around 2900, the subject matter on cylinder seals was varied and included diverse representations of economic activities, such as scenes of textile, vessel, and probably

Seals and Trade

Seals are often associated with trade. In particular, when impressions from jars or other types of mobile containers such as bags or baskets are found, it is possible that they sealed containers for shipping. Rarely is it possible to prove that this is the case, however. The most objective method of testing whether a sealing is not local has been the application of neutron activation analysis, which gives the fingerprint of the source for the clay sealing. Only very rarely has such analysis shown that a sealing was imported. More often, it seems that the sealing of containers was used internally, to control the local distribution of goods.

Only from certain periods of active international trade are foreign seals found in excavations. This phenomenon is most common in the early part of the second millennium, when seals from the Indus Valley

reached Mesopotamia and seals from Afghanistan reached Egypt. A tablet in the Yale Babylonian Collection from the time of Gungunum of Larsa (circa 1925) impressed with a seal from the Persian Gulf is a rare example of the administrative use of such exported seals (see the figure in “Distant Shores” in Part 6, earlier in this volume). More often, such seals are found as part of caches that contain a variety of precious objects, including cylinder and stamp seals. Seals—unlike jewelry, luxury pottery, or textiles—would not be likely objects for the export market. Only when the imagery on seals lost its meaning were they probably traded, and then not as seals but as raw materials. Such caches have been found in an early-second-millennium jar from Byblos (“Montet Jar”), in the Tod Treasure from Egypt, and in a hoard of cylinder seals from Thebes in Greek Boeotia.

food production. Another commonly recurring image is the procession scene, where various products, including jewelry, garments, and seemingly more mundane provisions are shown. A variety of rituals that were likely performed in the temple are also depicted on seals of this period.

These action scenes for the most part disappear at the beginning of the Early Dynastic period and are replaced by a far more narrow range of images in which two themes dominate: the combat scene between heroic men and wild beasts or mythical creatures, and the banquet scene. Only toward the end of the Early Dynastic period, around 2400, are divine figures, identified by their horned headdress, prominent in scenes of ritual building of a stepped structure. Another prominent divine image in this period is the god boat.

During the Akkadian period (about 2250), there was a revival of what might be considered action scenes, but this time, the subjects were not drawn from the workplace but from the divine, the mythological, or the epic realms. Only a very few, quite distant echoes of these lively scenes can be found in the texts. It was at this time that the presentation theme was introduced; it then dominated glyptic art from the Ur III period until the time of Hammurabi. While during the Akkadian period, the presentation

scene depicted primarily divine or mythical figures, in the Ur III period this scene, as an official image of the state bureaucracy, expanded to include the presentation of humans to the enthroned deified king. The imagery on an official's seal was one way by which his status would be marked. During the Old Babylonian period, the presentation scene was gradually replaced by representations of various standing deities, often accompanied by the protective goddess Lama and by an ever-increasing number of divine symbols. Influence from the Aegean and Egypt can be detected in the seal imagery of the Middle Assyrians and Kassites, with the sudden appearance of elements of landscape and of vigorous and realistic movements of heroes and monsters. This increased naturalism was balanced by an increase in the use of divine symbols in combination with long prayerful inscriptions. In the Neo-Assyrian period, scenes in a landscape setting were replaced by a return to more-emblematic representation of gods, scenes of worship and combat, and royal figures.

SEALS AND SOCIETY

Seals in Texts

The Sumerian word for seal is *kišib*. Some philologists think that this was not originally a Sumer-

ian word but one that was borrowed from the original inhabitants of southern Mesopotamia. The protocuneiform sign for cylinder seal is a pictograph that is apparently based on a stylus and a clay tablet. The Akkadian word for seal is *kunukku*, the same word that is used for a sealed tablet. Both the Sumerian and the Akkadian words closely link cylinder seals with their administrative function.

Who Owned Seals?

Although the distribution of seals varied from period to period, all kinds of people owned seals. When dealing with seal stones, we can know the identity of the owner only through an inscription. The single signs engraved on seals of the Jamdat Nasr and Proto-Elamite periods (circa 3000), cannot be read. The earliest readable seal inscription consists of names of cities in the southern alluvium. In the middle of the Early Dynastic period, around 2600, inscriptions identifying the seal owner appeared, giving the name and, more rarely, the title or the patronymic of the seal owner. We know that in the Akkadian period, scribes, cooks, priests, servants of the king, soldiers, carpenters, and other craftsmen owned seals, although we have very little trace of their actual use in the economic administration.

In the Ur III period, when seal imagery became highly standardized, the majority of seals were inscribed. Indeed, from their partial impressions on tablets, it is clear that the inscription, not the imagery, was relevant within the administrative context. In the Old Babylonian period, the identity of the seal owner is indicated either through an inscription on the seal or through an inscription on the tablet. Seals owned by women, although rarer than those owned by men, certainly do exist. Among the documents that record the economic activities of the *nadītu* women in Sippar (modern Tell Abu Habba), nine seals were certainly owned by women. There are a smaller number of other women who are recorded as owning seals. For the most part, they are important women, such as Matrunna, daughter of the king of Carchemish.

Dynastic and Royal Seals

Royal seals are identified first and foremost by the carved inscription citing a royal name. There

are several types of royal seals. As might be expected, those seals belonging to rulers, personal or official, are quite rare. The earliest examples that we know belonged to the rulers of the city-states of Lagash and Ur (Tell al-Muqayyar) during the Early Dynastic period. As a general rule, the iconography used on royal seals is essentially the same as that known on other seals. The quality of the carving on these Early Dynastic royal seals is high. The seals of the royal personalities found in the Royal Cemetery at Ur are made of lapis lazuli.

Also considered as royal are seals owned by servants of rulers. For example, the inscribed seals of three servants of Enheduana, the daughter of Sargon the Great and the priestess of the moon-god Nanna at Ur, are known. Many of the seals of the Ur III period, with presentation scenes of officials led before a seated god or a deified king, are inscribed with the phrase *IN.NA.BA*, which tells us that the king gave the seal to the official as a token of office.

Some kings, such as Zimri-Lim of Mari (modern Tell Hariri), owned a number of seals. In his case, one was used by the chancellery to seal envelopes of letters sent to other kings. The others were used by high-ranking administrators. In some periods, kings had not only personal seals but also dynastic and heirloom seals that were passed on from king to king. For example, Shaushtatar, king of Mitanni, had a dynastic seal that was carved with a combat scene of two heroes grappling with a rampant lion. It belonged to his great-grandfather Shattarna, son of Kirta. This seal was apparently carved in the Akkadian period of the late third millennium. When Shaushtatar used it around 1450, it was recut and a new inscription was added. Shaushtatar also had his own elaborately cut seal, which was then treated as a dynastic seal by his successors.

Votive and Divine Seals

In all periods, seals were closely associated with the gods as well as with administrative and royal domains. In the Old Babylonian period, seals were frequently inscribed with the names of the family gods. During the Kassite period of the mid second millennium, seals were often inscribed with long incantations or prayers. Not necessarily gifts to the gods, these were per-

sonal seals whose inscriptions assured divine protection.

Especially in Mesopotamia, seals were often deposited in temples as gifts to the gods. Hundreds of seals from the first half of the third millennium, mostly uninscribed, were found in the temples of Sin and Shara at Tell Asmar (ancient Eshnunna) and Khafaje (ancient Tutub) in the Diyala region. Seals with dedicatory inscriptions to the gods, usually for the life of the owner or for his ruler, first appeared in the Akkadian period. The inscriptions on such votive seals would be written not in mirror writing, which was used for seals meant to be impressed, but positively, so that the signs could be read on the seal itself. As with all votive inscriptions, they conveyed in perpetuity the prayer of the donor. Many such seals were listed in temple inventories.

We know that the gods themselves owned seals. Statues of deities sometimes show them wearing their seals. Only a few such seals have been identified. Some are very large and carved in relief (fig. 6). As far as we know, these were



Fig. 6. Illustration of the god from the divine seal of Marduk. The divine seal was made of lapis lazuli and found at Babylon, ninth century BCE. The long dedication on the seal reports that the seal was mounted in gold and was hung around the neck of the god's statue. IRAQ MUSEUM, BAGHDAD

not used to make impressions. Gods sent letters to kings and doubtless used seals to authenticate them. Divine seals were also used to seal such important documents as treaties (see the box on the Esarhaddon treaty). An example from Mari is inscribed, "Adad, son of Anum, king of the excellent lord, Hero, beloved to Anum." The seal itself was kept at Terqa (modern Tell Ashara) and was impressed on two tablets that were written by a bureaucrat in charge of customs.

How Seals Were Worn

We know that seals were often displayed on the person of the owner, although the dictates of fashion determined the particular ways in which seals were worn. This understanding is reinforced through peculiarities of the language. For example, the Sumerian word for wrist is *KIŠIB.LÁ*, which literally means "seal holder."

Shell plaques from Early Dynastic Kish (modern Tell al-Uhaimir, Tell Ingharra), Nippur (modern Nuffar), and Mari show women wearing seals dangling from pins or suspended at their wrists, which suggests that seal stones themselves were prominently displayed. This is confirmed through the grave goods that accompany the deceased in the graves of the Royal Cemetery at Ur. For example, the queen Puabi, found buried in full regalia, was wearing crossed gold pins with lapis lazuli heads. Suspended from one of the pins was her cylinder seal, also carved in lapis lazuli.

In the historical omen texts we learn that Rimush and Shar-kali-sharri, both kings of the Akkadian dynasty, were killed by cylinder seals. If this is true, it is likely that they were killed not with the seal stones themselves but with the large garment pins from which they dangled. In the second millennium, seals were more often suspended from a loop and worn around the neck (fig. 10). Some of the most elaborate seals



Fig. 10. Drawing of a glass cylinder seal suspended as a necklace. DRAWING BY HOLLY PITTMAN.

How to Read a Seal Impression: The Vassal Treaty of Esarhaddon

The vassal treaty of Esarhaddon serves as a model of how seals were used in their administrative and legal capacities (fig. 7). Fragments of several copies of the treaty made in 672 between Esarhaddon and his eastern Median vassals were found with pieces of ivory and bronze furniture fittings in the debris of the throne room of the temple of Nabu at the Assyrian capital of Nimrud (modern Kalkhu). The purpose of the treaty was to assure the peaceful dynastic succession from Esarhaddon to Assurbanipal, his son and chosen successor for the throne of Assyria.

The treaties shared each other's content, but differed in the names of leaders and their city-states. They were all impressed with three different seals. None was Esarhaddon's personal possession; rather, they were all dynastic seals. The seals were rolled in a horizontal band across the center of the front of the tablet. The first seal was that of the god Assur (fig. 8). It is the oldest of the three, carved in the period of the Old Assyrian dynasty around 1900. It was rolled in the center of the space reserved for sealing, parallel to the long side of the tablet. The other two seals, both seals of Esarhaddon's predecessors, were rolled on either side of, and perpendicular to, the divine seal. To the left was impressed the seal of Sennacherib, Esarhaddon's father. A sixteen-line inscription names the seal as the "Seal of Destinies" and emphasizes that the seal must never be altered:

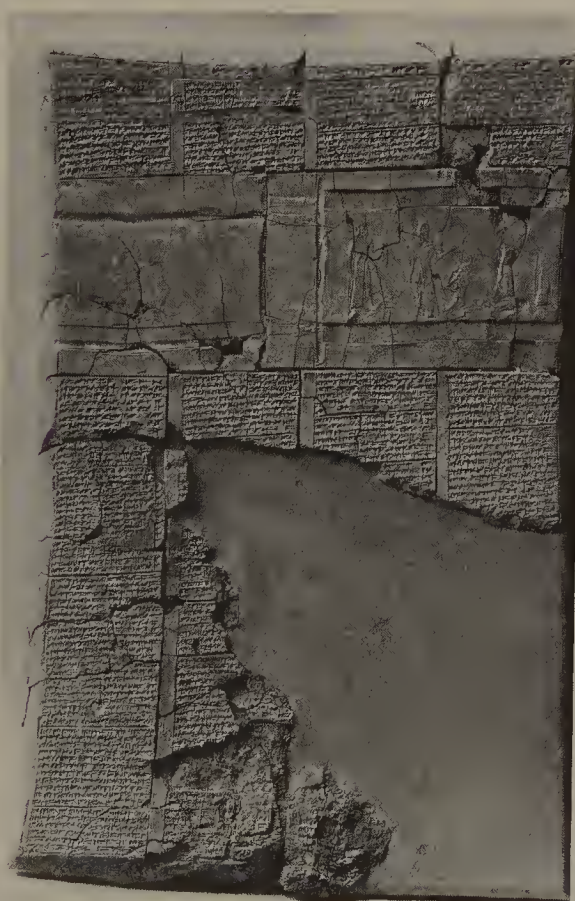


Fig. 7. Vassal treaty of Esarhaddon. LOUVRE MUSEUM, PARIS



Fig. 8. Drawing of the seal of Assur, nineteenth century BCE. D. J. WISEMAN, "THE VASSAL-TREATIES OF ESARHADDON," *IRAQ* 20 (1958)

The Seal of Destinies, with (which) Assur, king of the gods, seals the destinies of the Igigi and Anunnaki of heaven and underworld, and of mankind. Whatever he seals he will not alter. Whoever would alter it, may Assur, king of the gods, and Mullissu [his wife], together with their children, slay him with their terrible weapons! I am Sennacherib, king of (Assyria), the prince who reveres you—whoever erases my inscribed name or discards this, your Seal of Destinies, erase from the land his name and seed! (After D. Collon, *First Impressions*, p. 134)

This seal shows Sennacherib facing the god Assur, who stands on the back of a divine animal. Behind the king is the goddess Ishtar standing on her divine animal. Rolled to the right side of the divine seal is a seal with a remarkably similar image but this time it is the god Assur who stands on the horned lion (fig. 9). On this seal, the king, kneeling and without royal headgear, is introduced to the mounted deity by a male deity. Another male deity stands on a winged-and-horned lion behind the king. This seal, whose effaced inscription can hardly be made out, may be as early as the Middle Assyrian period, almost six hundred years earlier than Esarhaddon. These documents are rare examples of the continued efficacy of certain seal images, particularly potent here in assuring the succession of the penultimate ruler in the Sargonid line.



Fig. 9. Drawing of seal showing a kneeling king who is being introduced by a male deity to the god Assur. Middle Assyrian period. D. J. WISEMAN, "THE VASSAL-TREATIES OF ESARHADDON," *IRAQ* 20 (1958)

were mounted with gold caps with elaborate granulated decoration. In the first millennium, stamp seals were similarly mounted.

How Seals Were Used

For the most part, the formal and symbolic aspects of cylinder seals remained constant during the millennia. Studies of sealing practice in specific periods show us that the patterns of their use in the administrative process changed as procedures were modified.

During the initial period of their use, cylinder seals were impressed on all sorts of administrative documents, including the hollow clay balls, clay tags, and numerical tablets. By the Jamdat Nasr and Proto-Elamite periods seals were used to mark clay locks on doors and jar sealings (fig. 11), but they were applied only rarely to inscribed tablets. As writing developed through the course of the first half of the third millennium, cylinder seals almost entirely ceased to be impressed on tablets. It was only during the Ur III period, when the entire administrative system was completely reorganized into a vast and complex bureaucracy, that tablets were once again impressed with cylinder seals. The seal impression served to denote the accuracy and the authenticity of the document. This is the beginning of what eventually evolved into the legal concept current today of the signature as the only requirement for a legally binding agreement.



Fig. 11. Jar stopper impressed with two cylinder seals from Nineveh, circa Jamdat Nasr or Proto-Elamite periods. BRITISH MUSEUM, LONDON

Receipts and disbursements were the most commonly sealed of the many types of administrative documents in the Ur III period. As a rule, the person who received the goods sealed the tablet or envelope as an acknowledgment of receipt. In legal documents that deal with the transfer of property through sale or gift, the person who relinquished the right of ownership sealed the document. In the case of a loan, the borrower or his guarantor applied his seal. In the subsequent Old Babylonian period, administrative texts were treated in much the same way. Legal documents were generally sealed either by witnesses or by the parties to an agreement who relinquished the right or assumed an obligation. When the transactions demanded mutual obligations such as exchange, partnership, division of property, or marriage, both parties sealed. Witnesses present at the recording of a transaction would be named in the document and would impress a seal.

The problem of the authenticity of a document was solved by placing the tablet on which a transaction or proceeding was recorded in an envelope of clay. On the envelope, the text or some part of it was repeated, and seals of the parties and witnesses were impressed. The primary function of the witnesses was to verify the accuracy of the document's content. Their seal impressions bound the witnesses to testify if the details of the transaction were challenged. When a dispute arose, the envelope was broken and both the tablet and the envelope would be presented to a judge. The witnesses would be called, and a judgment would then be made on the basis of the evidence. In the middle of the first millennium, envelopes were replaced by two identical copies of the contract given to the concerned parties. This is the practice that is essentially in force today.

For the most part, the impressed seal belonged to the individual who sealed with it. But there are many instances in which the individual who is identified in the tablet as the sealing party used someone else's seal. Indeed, acknowledging a commitment or presence did not always require a seal. Certain witnesses used the hem of a garment or the impressions of a fingernail in its place. Crude seals carved from clay were cut on the spot for use. Apparently, they were made for witnesses to, or legal participants in,

a legal transaction. These quickly made seals, most often used by witnesses to transactions, were called BUR.GUL, after the name of the seal-cutting profession.

Single individuals could own and use more than one seal, either sequentially or concurrently. Often changes in the career status of an official were marked by a new seal. For example, the woman of Mari named Amadugga used one seal in her service under Shamshi-Adad I and another under Zimri-Lim. In other cases, a person acquired new seals on promotion to a new position. Ur III scribes from Umma (modern Tell Jokha) frequently changed seals as they advanced to positions of greater responsibility.

Seals as Markers of Status or Office

There can be no question that both the material and the images engraved on seals served to mark social status or office, although precisely how that was done is difficult to determine for most periods. A study of the seals found in the Royal Cemetery at Ur has suggested that the combat scene and the banquet scene may have been used by two different types of officials. Officials in the court of the Akkadian kings most often used the combat scenes. In the Ur III period, seals with certain types of presentation scenes showing the king in audience with the seal owner were held by only the highest of royal officials. It has been suggested that a seal engraved with an introduction scene was given to the scribe on completion of the course of study.

Such features as the type and particularly the color of the material and the variety of additional attachments, such as caps and small sculptures, must all have served to reflect social, economic, or religious status, as well as personal choice. It seems that the highest-ranking individuals owned seals that were carved by the most skilled craftsmen. We have no clear understanding of the mechanisms by which these variables were selected. Indeed, we know little of how people acquired personal seals, except that some seals were passed on within families. It is often assumed that individuals went to a shop and ordered a seal, picking out its imagery according to personal preference. Although there must have been some element of personal choice, it is un-

likely that this was the only factor in determining the type of imagery that a seal carried.

Seals as Amulets

In addition to their function as symbols of administrative powers, seals were important as potent objects from very early on. Much of the early evidence that we have for this is indirect and consists of the fact that seals are found in burials from as early as the Samarra period (around 5500). Seals from the Early Dynastic period inscribed with the name, patronymic, and (sometimes) official position are found in burials and are assumed to be personal possessions of the deceased, who took them along to the grave. We know that seals, in addition to being personal possessions, were understood to have magical or prophylactic powers. This potency of the seal is clearly expressed in the omen texts. As Leo Oppenheim notes in his study of the Assyrian dream omens, the relationship between offspring and cylinder seals was clearly made by the ancients, as in this text:

If (in his dream) one gives him a seal: [he will have] a son.

If one gives him a seal of red stone: [he will have] sons and daughters.

If one gives him a mounted seal: [he will have] neither sons nor daughters.

If one gives him a seal of ivory (?): [he will attain] his heart's desire.

If one gives him an inscribed seal: he will have either a "name" or a son; a legitimate son.

If one gives him a seal with figures: he will have sons, peace of mind.

If one gives him a royal seal: there will be a protective god and a goddess for him.

If he wears a seal and one takes it away: either his son or his daughters will die.

(Oppenheim, p. 276)

Because of its close and complex association with its owner, the image of the seal was frequently used metaphorically. Perhaps the most famous such reference is in the Song of Solomon 8:6: "Let me be a seal upon your heart, like the seal upon your hand. For love is fierce as death, passion is mighty as Sheol." William Hallo has shown how the powerful metaphors of a lover's intimacy and death can be directly understood

in terms of the important role of seals in ancient near eastern society.

SEALS AND SCARABS IN EGYPT

The earliest seals known from Egypt are cylinder seals imported from southern Mesopotamia. They have been found in graves of the Naqada II period of around 3300. These seals are only one of several categories of evidence for what was a brief but significant contact between the two nascent civilizations. In Egypt, as in Mesopotamia, cylinder seals are closely associated with the development of writing. In addition to a small number of imported seals, there are many cylinders from this early period that were certainly carved in Egypt. During the first two dynasties, cylinder seals were used in Egypt, as they were in Mesopotamia, to mark massive clay sealings used to close jars. The imagery on these seals for the most part consisted not of representational scenes but of hieroglyphic inscriptions conveying the personal names and titles of the sealing official. By the middle of the Old Kingdom, however, clay was no longer used so extensively for sealing vessels. Cylinder seals decorated solely with inscriptions were deposited in burials; their usage in everyday life is little known, although some references are found in texts.

That owning a cylinder seal was a symbol of power and of high official status is indicated by the hieroglyph in the shape of a cylinder seal hung prominently at the neck of the king's sandal bearer on the Narmer Palette. (See fig. 2 of the Narmer Palette in "The History of Ancient Egypt: An Overview" in Part 5, Vol. II.) An ancient and important ranking title of Egyptian high officials was "seal bearer of the *b'ity* king." Originally such people were probably close to the king.

The seal form most closely associated with Egypt is not the cylinder, however, but a form of stamp seal called a "scarab." The term "scarab" alludes to a three-dimensional representation of the *Scarabaeus sacer*, the "dung beetle," whose natural Egyptian habitat is the low desert. The Egyptian name of the beetle, *ḥpr̄r*, derives from

a root meaning "to come into existence." This association may have developed from a misunderstanding on the part of the ancient Egyptians, who, as Plutarch, a later classical writer, explained, thought that beetles were spontaneously generated from the ball of dung that gathered and rolled from east to west. The direction of the action evoked for the Egyptians a further association with the movement of the sun. In the Old Kingdom, the beetle as the manifestation of the creator god was syncretized with Atum in his sun-god role. In Egyptian art the morning aspect of the sun-god, Khepri, was sometimes represented as a male deity whose head was a scarab.

Scarabs are found all over Egypt. Unfortunately, few have been found in Egypt in secure archaeological context, and therefore, date and precise functions are difficult to determine with any rigor. Outside of Egypt, scarabs are found most abundantly in Canaan and to a lesser degree in sites in northern Syria and elsewhere. Certainly, they are a reflection of the close and complex political and economic connections that existed between Egypt and her northeastern neighbors during the second millennium. By the first millennium, scarabs were ubiquitous throughout the Mediterranean.

A wide variety of subjects are engraved on the flat undersurface of the scarabs. They fall into four broad categories. The first group includes scenes involving the king as smiting a captive, as enthroned before approaching figures, or in a chariot with a horse trampling an enemy. Another category involves scarabs that are inscribed with royal names and titles. (A related group is inscribed with the names and titles of officials.) These can be combined with geometric patterns based on the spiral or knot pattern. Indeed, the largest group of scarabs carries simple geometric designs without any inscription. Another large group of scarabs is engraved with images of divine figures or divine symbols.

Scarabs, like seals in the Near East, had a variety of functions. In some of the earliest tombs of unified Egypt, dating to the late fourth millennium, jars full of beetles were found along with masses of other items. The earliest known scarabs, from the Old Kingdom, were not used as seals but seem to have been amulets. By the



Fig. 12. Glazed steatite commemorative scarab of Sheshi (second half of the seventeenth century BCE), Fifteenth Dynasty. ISRAEL MUSEUM, JERUSALEM.

Twelfth Dynasty, scarabs were overwhelmingly the most common type of amulet, and this remained true until the Ptolemaic period. One particular type of scarab that was certainly a funerary amulet is the heart scarab. Heart scarabs were usually cut from green stone, which signified to the Egyptians the power of regeneration. On the back of these large amulets were inscribed the name of the deceased and from the sixth chapter of the *Book of the Dead*, a spell instructing the heart not to weigh against its owner in the judgment after death. Scarabs also functioned as good-luck amulets for the living. In this capacity, they were inscribed with phrases that had magical potency for assuring health, long life, and happiness. This type of scarab would also carry images of the deities, possibly because the Egyptians deemed their representations as potent as magical words.

Scarabs were used as seals primarily during the Middle Kingdom and the Second Intermediate Period. These scarabs, inscribed with the names and titles of high officials, were used to seal papyrus documents and other items requiring authentication. Many scarabs both of kings and of officials date to the period of the Hyksos kings of the Fifteenth Dynasty, whose ancestors were not native Egyptians (see fig. 12).

In the New Kingdom, during the reign of Amenhotep (Amenophis) III, scarabs were produced to commemorate an important royal event or achievement. Among the subjects recorded were the extent of the dominions of Amenhotep and his principal queen, Tiye, and the arrival of a Mitannian princess, along with a large entou-

rage, at Amenhotep's palace. An expedition for hunting wild bulls was commemorated by Amenhotep with an issue of scarabs, as was the total of lions killed by him in his first ten years of reign; more than one hundred examples of these scarabs are preserved.

BIBLIOGRAPHY

General Works on Seals

PIERRE AMIET, *La Glyptique mésopotamienne archaïque* (2nd ed. 1980), a comprehensive catalog of stamp and cylinder seals from the fifth millennium through the middle of the third millennium in greater Mesopotamia; BRIGGS BUCHANAN, *Catalogue of Ancient Near Eastern Seals in the Ashmolean Museum*, vol. 1, *Cylinder Seals* (1966); ELENA CASSIN, "La Sceau: Un Fait de civilisation dans la Mésopotamie ancienne," in *Le semblable et le différent* (1987); DOMINIQUE COLLON, *First Impressions: Cylinder Seals in the Ancient Near East* (1987), a complete and readable general work on seals, *Catalogue of the Western Asiatic Seals in the British Museum: Cylinder Seals*, vol. 2, *Akkadian-Post-Akkadian-Ur III Periods* (1982), and *Catalogue of the Western Asiatic Seals in the British Museum: Cylinder Seals*, vol. 3, *Isin-Larsa and Old Babylonian Periods* (1986), catalogs of a major collection of cylinder seals; HENRI FRANKFORT, *Cylinder Seals* (1939), the classic study in English on cylinder seals.

MCGUIRE GIBSON and ROBERT D. BIGGS, eds., *Seals and Sealing in the Ancient Near East*, *Bibliotheca Mesopotamica* 6 (1977), the proceedings of a seminal symposium on the administrative and legal role of

seals in ancient near eastern society; ANTON MOORTGAT, *Vorderasiatische Rollsiegel* (1940), a classic study of ancient near eastern seals; EDITH PORADA, *Corpus of Ancient Near Eastern Seals in North American Collections*, vol. 1, *The Collection of the Pierpont Morgan Library* (1948), an early work on cylinder seals based on the superb collection at the Pierpont Morgan Library in New York; EDITH PORADA, ed., *Ancient Art in Seals* (1980), a series of essays on glyptic art (the introduction by Porada updates her 1948 catalog of the Morgan collection); and ALWO VON WICKEDE, *Prähistorische Stempelglyptik in Vorderasien*, Münchener Vorderasiatische Studien 6 (1990), a comprehensive work on early stamp seals from the Near East.

Specialized Studies

FELIX BLOCHER, *Siegelabrollungen auf frühaltbabylonischen Tontafeln im British Museum*, Münchener vorderasiatische Studien 10 (1992); RAINER M. BOEHMER, *Die Entwicklung der Glyptik während der Akkad-Zeit* (1965), and "Der Glyptik von der alt- bis zur spätbabylonischen Zeit," in *Der alte Orient*, edited by WINFRIED ORTHMANN, Propyläen Kunstgeschichte 14 (1975); MARK BRANDES, *Siegelabrollungen aus den archaischen Bauschichten in Uruk-Warka*, Freiburger altorientalische Studien 3 (1979); DOMINIQUE CHARPIN, *Archives familiales et propriété privée en Babylonie ancienne: Etude des documents de "Tell Sifr"* (1980), and "Les Divinités familiales des babyloniens d'après les légendes de leurs sceaux-cylindres," in *De la Babylonie à la Syrie, en passant par Mari*, edited by O. TUNCA (1990); HENRI FRANKFORT, *Stratified Cylinder Seals from the Diyala Region*, Oriental Institute Publications 72 (1955); A. R. GEORGE, "Sennacherib and Tablet of Destinies," *Iraq* 48 (1986); BEATRICE L. GOFF, "The Role of Amulets in Mesopotamian Ritual Texts," *Journal of the Warburg and Courtauld Institutes* 19 (1956); LEONARD GORELICK and ELIZABETH WILLIAMS-FORTE, *Ancient Seals and the Bible*, Occasional Papers on the Near East 2, no. 1 (1983); WILLIAM W. HALLO, "'As the Seal upon Thine Arm': Glyptic Metaphors in the Biblical World," in *Ancient Seals and the Bible*, edited by L. GORELICK and E. WILLIAMS-FORTE (1983); W. F. LEEMANS, "La Fonction des sceaux, apposés à des contrats vieux-babyloniens," in *Zikir Šumim: Assyriological Studies Presented to F. R. Kraus on the Occasion of His Seventieth Birthday*, edited by G. VAN DRIEL, TH. J. H. KRISPIJN M. STOL, and K. R. VEENHOF (1982); DONALD M. MATTHEWS, *Principles of Composition in Near Eastern Glyptic of the Later Second Millennium B.C.*, Orbis biblicus et orientalis, Series Archaeologica 8 (1990); R. J. MATTHEWS, "Fragments of Officialdom

from Fara," *Iraq* 53 (1991); R. OPIFICIUS, "Gottessiegel," *Reallexikon der Assyriologie* 3 (1957–1971); A. LEO OPPENHEIM, *The Interpretation of Dreams in the Ancient Near East, with a Translation of an Assyrian Dream-Book*, Transactions of the American Philosophical Society, n.s. 46, pt. 3 (1956); BARBARA PARKER, "Cylinder Seals from Palestine," *Iraq* 11 (1949); EDITH PORADA, *Seal Impressions of Nuzi*, Annual of the American Schools of Oriental Research, vol. 24 (1947), and "The Cylinder Seals Found at Thebes in Boeotia," *Archiv für Orientforschung* 28 (1981–1982); KAZUKO WATANABE, "Die Siegelung der 'Vasallenverträge Asarhaddons' durch den Gott Aššur," *Baghdader Mitteilungen* 16 (1985); IRENE J. WINTER, "Legitimation and Authority Through Image and Legend: Seals Belonging to Officials in the Administrative Bureaucracy of the Ur III State," in *The Organization of Power*, edited by MCGUIRE GIBSON and R. D. BIGGS, Studies in Ancient Oriental Civilization no. 46 (1987); D. J. WISEMAN, "Vassal-Treaties of Esarhaddon," *Iraq* 20 (1958); RICHARD L. ZETTLER, "On the Chronological Range of Neo-Babylonian and Achaemenid Seals," *Journal of Near Eastern Studies* 38 (1979).

Techniques of Manufacture

LEONARD GORELICK and A. JOHN GWINNETT, "The Origin and Development of the Ancient Near Eastern Cylinder Seal," *Expedition* 23 (1981); A. JOHN GWINNETT and LEONARD GORELICK, "Ancient Lapidary: A Study Using Scanning Electron Microscopy and Functional Analysis," *Expedition* 22 (1979), and "Beadmaking in Iran in the Early Bronze Age," *Expedition* 24 (1981).

Scarabs

RAPHAEL GIVEON, "Skarabäus," *Lexikon der Ägyptologie* 5 (1984); ERIK HORNUNG and ELISABETH STAEHELIN, *Skarabäen und andere Siegelamulette aus Basler Sammlungen* (1976); BERTRAND JAEGER, *Essai de classification et datation des scarabées Menkhéperrê*, Orbis biblicus et orientalis, Series Archaeologica 2 (1982); GEOFFREY T. MARTIN, *Egyptian Administrative and Private-Name Seals, Principally of the Middle Kingdom and Second Intermediate Period* (1971), and *Scarabs, Cylinders, and Other Ancient Egyptian Seals: A Checklist of Publications* (1985); DAVID O'CONNOR, "The Chronology of Scarabs of the Middle Kingdom and the Second Intermediate Period," *Journal of the Society for the Study of Egyptian Antiquities* 15 (1985); W. M. FLINDERS PETRIE, *Scarabs and Cylinders with Names* (1917); OLGA TUFNELL and WILLIAM A. WARD, *Studies on Scarab Seals*, Vol. I (1978), II pts 1–2 (1984).

SEE ALSO *Artisans and Artists in Ancient Western Asia* (Part 4, Vol. I) and *Art and Archaeology of the Achaemenid Empire* (Part 10, Vol. IV).

Jewelry and Personal Arts in Ancient Egypt

JAMES F. ROMANO

TWO TYPES OF ART have survived from ancient Egypt: the major arts of sculpture, relief, and painting and the so-called personal arts. This latter group comprises utilitarian objects, such as cosmetic equipment, ceramic vessels, and jewelry, as well as technologically based categories including pottery, stone carving, and metalwork. The ancient Egyptians viewed these objects as personal possessions, to be used in this life or the next. They had a private aspect, as distinguished from the more public nature of sculpture, painting, and relief. Thus the expression “personal arts” is preferred here over the traditional term “minor arts,” which implies that the works included under this rubric are somehow inferior to statues, painting, and reliefs and fails to relate these pieces to the cultural context in which they existed.

ANCIENT EGYPTIAN JEWELRY

Materials and Techniques

Egyptian craftsmen fashioned jewelry from a rich assortment of natural and man-made materials. Copper was the first metal used for jewelry. Originally jewelers could only work hard, native copper, hammering it into the desired form. With the perfection of copper smelting, the Egyptians began mining copper ores in the

Eastern Desert. By the Eighteenth Dynasty, the increased need for copper necessitated both the opening of new mines in Sinai and large-scale importation from Syria, Cyprus, and Anatolia.

Gold held a special appeal to ancient Egyptian jewelers. Its malleability and relatively low melting point allowed artisans to work the metal. The Egyptians appreciated that gold, unlike other metals, neither tarnished nor discolored. They interpreted gold’s resistance to the effects of time as well as its radiant sheen, which they associated with the fiery brilliance of the sun, as evidence of the metal’s magical properties. Gold was an “immortal” substance; the flesh of the gods was believed to be of gold.

Originally gold was gathered in the form of pebbles deposited as alluvium along the banks of the Nile or in the sand and gravel of wadis in the Eastern Desert. By the Old Kingdom, the Egyptians were mining gold. Although small quantities of the metal exist throughout the country, the Egyptians concentrated their quest for gold in the desert region east of Koptos (running south from the Wadi Hammamat) and in Nubia.

In ancient Egypt, silver was much rarer than gold. Since the Egyptians never mastered the technique of smelting silver, it had to be imported from Anatolia, via Syria, and from Cyprus and Crete.

Egyptian jewelers also used electrum, a natural alloy of gold and silver, for objects of daily wear. Originally electrum was brought to Egypt from Nubia and Punt (possibly modern Eritrea or Somalia); by the New Kingdom, technological advances allowed the manufacture of electrum through alloying gold and silver.

The finest Egyptian jewelry combines colorful stones and minerals into appealing visual forms. Three stones were valued above all others for their rarity and beauty: lapis lazuli, turquoise, and carnelian. Deep blue lapis lazuli was imported through Mesopotamian middlemen from Badakhshan in northeastern Afghanistan. Pale blue or blue-green turquoise came exclusively from the copper mines at Wadi Maghara and Serabit al-Khadim in Sinai. Carnelian, ranging in color from deep reddish brown or orange to faint reddish transparency, was found in the Eastern Desert near Aswan and in Lower Nubia.

Jewelers used many other colorful minerals and stones. These include amethyst, bluish white chalcedony, feldspar, red garnet, jasper, shiny black obsidian, milky white quartz, and steatite (soapstone). Colored stones had profound symbolic value to the Egyptians. They associated red stones with blood. Just as blood might imply strength and vigor, it could also connote death. Thus the symbolism of red stones was often ambivalent. The word for red jasper (*khenmet*), for example, was derived from the Egyptian word “to delight,” while in the Late Period, the name for carnelian (*heraset*) also meant “sadness.” Green turquoise, feldspar, and jasper symbolized the emergence of new vegetation, resurrection, and the reborn god Osiris.

Not everyone could afford jewelry made of such expensive stones. To simulate more expensive materials, Egyptian jewelers manufactured several less costly artificial substitutes. As early as the Badarian period in the fifth millennium BCE the Egyptians applied a vitreous alkaline glaze to steatite beads, imitating the color of semiprecious stones. By the subsequent Naqada I period, craftsmen had mastered the technique of producing faience, or as it is more accurately called, glazed composition. Faience was made by shaping a mass of powdered quartz into any desired form, either by hand or in a mold, cover-

ing it with a brightly colored alkaline glaze, and firing the core and glaze until the two surfaces fused.

Glass beads are first documented in the Fifth Dynasty, but glass manufacture remained a secondary craft until the middle of the Eighteenth Dynasty. Skilled craftsmen produced glass in many colors including blue, yellow, green, red, black, and white. By the reign of Tutankhamun, colored glass had become an acceptable substitute for the carnelian, turquoise, and lapis used for royal objects.

The humblest Egyptian jewelry, particularly pieces made in the earliest periods or for individuals of modest means, was made of animal remains. From the desert or along the Red Sea, the Egyptians secured animal bones; tortoise, cowrie, and oyster shells; ostrich egg shells; and mother-of-pearl.

Our limited knowledge of Egyptian jewelers and jewelry manufacture derives both from textual evidence and from several workshop scenes on tomb walls. Technology was modest, yet effective. Jewelers melted, annealed, and soldered metal in a crude pottery brazier or clay crucible. They raised the fire's temperature by blowing into a simple pipe or by treading on leather bellows that shot blasts of air into the flames. Jewelers made sheet and leaf gold by pouring melted metal onto a flat surface, allowing it to cool, and beating the gold with pebbles or bulky stone hammers. (See “Artisans and Artists in Pharaonic Egypt” in Part 4, Vol. I.)

To produce gold or silver strips, the Egyptians either scored a metal sheet with a copper or stone tool or bent it back and forth until it fractured. Repoussé and chasing were achieved through the skillful manipulation of wood, bone, or metal tools; engraving required a sharp pointed tool. For the laborious task of perforating tiny stone beads—holes were never more than $\frac{1}{12}$ inch (2 mm) in diameter—the Egyptians employed a bow drill with a bronze or flint drilling rod. Moistened quartz sand or emery served as an effective abrasive.

The Predynastic Era

Many of the materials and basic forms of Egyptian jewelry first appeared in the Predynastic period. During the Badarian period, the initial

phase of the Predynastic in Upper Egypt, beads became the “building block” of Egyptian jewelry. Badarian artisans fashioned cylindrical, barrel, or disk beads in turquoise, jasper, carnelian, ivory, bone, shell, dried clay, copper, and glazed steatite. Jewelry makers incorporated beads into head ornaments, necklaces, bracelets, and belts. Simple stone rings also appeared at this time.

In the Naqada I period gold and faience beads first appear. In addition, Naqada I artisans began fashioning figural amulets, small magical charms worn around the neck or wrist. We also detect a tendency toward playful embellishment. An ivory ring from Naqada, for example, takes the form of two lions, their curved legs forming the loop.

The Naqada II and III periods witnessed a dramatic increase in the manufacture of stone, bone, and ivory amulets including fish, hippopotamuses, crocodiles, frogs, flies, and an enigmatic form commonly identified as a bull’s head (fig. 1). Perhaps also of amuletic nature were oval pendants, usually of shell, attached to a cord or string of beads and worn over the forehead. Naqada II and III craftsmen often manufactured single pieces of jewelry comprised of several materials.

The Early Dynastic Period

With the unification of Egypt and the subsequent establishment of the First Dynasty, the most accomplished Egyptian jewelers began serving royal patrons. In the Early Dynastic period (circa 3000–2675) government-sponsored

trading and mining expeditions allowed court artisans greater access to precious metals and rare stones. As the pictorial arts expanded, royal jewelers could call upon a new inventory of iconographic themes.

Four bracelets from the tomb of the First Dynasty King Djer at Abydos (modern ‘Araba al-Madfuna) demonstrate the technical skills and innovative design of these early royal craftsmen. One of these consists of twenty-seven alternating turquoise and gold plaques, each representing a falcon perched atop a paneled palace facade (*serekh*). The iconography of this piece is fully royal: the falcon is the sky-god Horus, embodied in the king, and the *serekh* represents the royal residence (fig. 2).

Nonroyal people of the Early Dynastic period were also buried with a wide assortment of well-made jewelry. From the First Dynasty cemetery at Helwan comes the earliest example of the broad collar (*wesekh*). It features seven rows of tubular faience beads with a single outer row of vertically set beads in the form of coleoptera beetles, symbols of the goddess Neith. Early Dynastic bead necklaces occasionally have single amulets including the Neith beetle and a falcon in a boat, perhaps an early visual reference to the sky-god Horus in the bark of Re. The Early Dynastic parure included gold, copper, slate, shell, and ivory bangles and flexible bracelets composed of single strands of stone and faience beads. In addition, an undecorated gold fillet made of a single piece of sheet gold was found on the head of a woman in a First Dynasty grave.

By the Third Dynasty the conspicuous display of jewelry had become a regular part of personal adornment, particularly for women. A statue of the Lady Nesames in the Louvre shows her wearing eleven bracelets on her left forearm and twelve on her right.

The Old Kingdom

Our knowledge of jewelry in the Old Kingdom (circa 2675–2130) derives both from pieces found in tombs and from depictions of ornament on statues and reliefs. This evidence, however, is less than perfect. Most surviving Old Kingdom examples were funerary items made exclusively for use by the deceased in the afterlife and were therefore far more fragile than jewelry meant for



Fig. 1. Ivory “bull’s head” amulet, Naqada II or III period. Provenance unknown. THE BROOKLYN MUSEUM, NEW YORK



Fig. 2. Four bracelets from early Dynasty I found in the tomb of King Djer. Their beads consist of gold, lapis lazuli, turquoise, and amethyst. EGYPTIAN MUSEUM, CAIRO

everyday wear. Nevertheless, many of the forms of jewelry known from the Predynastic and Early Dynastic periods can be documented in the Old Kingdom.

Old Kingdom boatmen often wore a chaplet of twined weeds or grasses knotted at the back of the head and frequently adorned with fresh flowers including papyrus and water lilies. Inspired by the flowered boatman's fillet, Old Kingdom jewelers designed gold and silver bands with stylized floral motifs. The Fourth Dynasty statue of the Lady Nofret in the Cairo Museum shows her wearing such a diadem. The white band, no doubt, imitates silver, while the red and green details of the stylized floral motifs suggest carnelian and turquoise inlay (fig. 3).

Neck ornaments were a standard feature of

Old Kingdom bijouterie. Craftsmen continued to fashion amulets out of precious metal, colored stone, and faience. They favored animal forms, but parts of the human body, such as the face and hand, and purely amuletic devices like the *wedjat* eye and the *shen* sign (signifying "wholeness" and "universal power" respectively) are also attested. The *wesekh*, previously made of beads of one color, was now enlivened by a harmonious combination of materials. The variegated collar of Prince Babaef consists of twenty rows of tiny gold, carnelian, steatite, hematite, turquoise, and shell beads. The first evidence for pectorals can be documented on Old Kingdom statues and reliefs.

Perhaps the most common forms of Old Kingdom adornments were the bracelet and armlet. Artisans still made simple metal bangles of the type known in the Early Dynastic period, but the finest now show figural decoration. Four schematic butterflies made of inlaid carnelian, lapis lazuli, and turquoise appear on each of twenty silver bracelets from the Fourth Dynasty tomb of Queen Hetepheres. Eventually the solid bangle was superseded by another Early Dynastic form, the flexible armlet or bracelet made of several rows of beads held in place by spacer bars.

The Middle Kingdom

Jewelry of the Middle Kingdom (circa 1980–1630) invites superlatives. William C. Hayes, for example, wrote of "an extraordinary sense of



Fig. 3. Statue of Lady Nofret wearing a diadem with an inlaid floral decoration; from Maidum, early Fourth Dynasty. EGYPTIAN MUSEUM, CAIRO

effective design, coupled with faultless taste and a complete mastery of the techniques involved." Such encomiums are deserved. The Twelfth Dynasty jeweler elevated his craft to the highest levels of artistic achievement.

The Old Kingdom gold boatman's fillet underwent considerable elaboration during the Twelfth Dynasty. A royal diadem made for the Princess Sithathoryunet of the time of Amenemhet (Ammenemes) III, for example, was embellished with fifteen floral rosettes, each inlaid with bits of red carnelian and green or blue faience. A uraeus cobra, inlaid with stones and faience, rises from the front of the band. Three pairs of streamers hang from rosettes at the back and sides of the diadem, while two majestic gold plumes rise from a papyrus flower at the rear.

The most visually arresting of all Middle Kingdom adornments are the pectorals fashioned for the ladies of the Twelfth Dynasty court. The pectoral of Sithathoryunet in the Metropolitan Museum of Art (fig. 4) displays the royal jeweler's supreme skills as goldsmith, lapidary, and designer. Multicolored turquoise, carnelian, garnet, and lapis lazuli inlays are secured by a technique called *cloisonné*. Although Egyptian artisans had used *cloisonné* since the Old Kingdom, they did not fully exploit the process until the Twelfth Dynasty. The ancient jeweler first bent thin metal strips to a desired shape and then soldered the strips at right angles to a flat metal surface, creating tiny cells, or *cloisons*. Precisely cut inlays were then fitted into these *cloisons* and affixed with paste. The

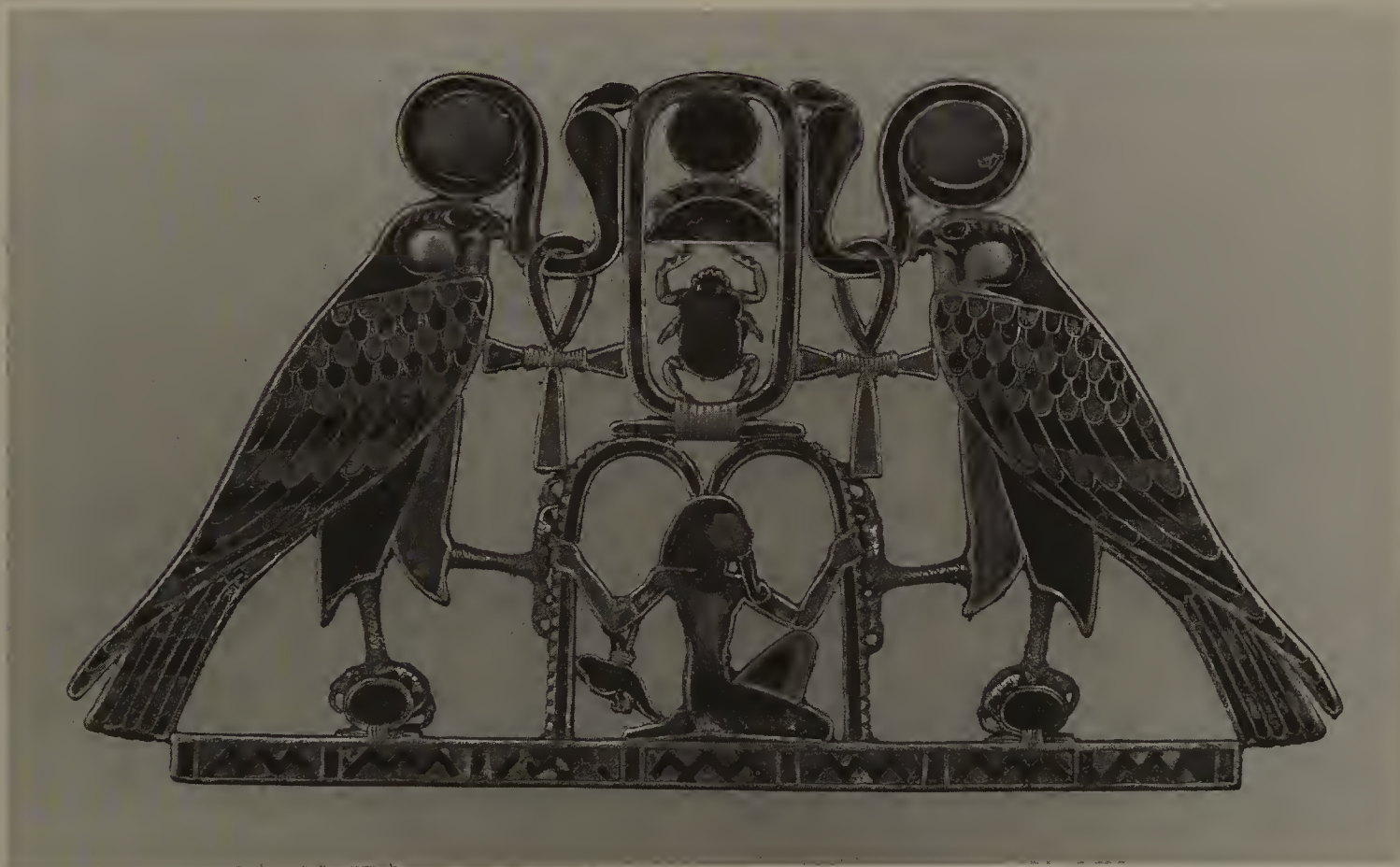


Fig. 4. Pectoral of Princess Sithathoryunet wishing King Sesostri II "millions of years of life." This artifact with inlaid cloisonné designs of amethyst, turquoise, feldspar, lapis lazuli, garnet, and carnelian dates to the Twelfth Dynasty and was found at Lahun. METROPOLITAN MUSEUM OF ART, NEW YORK

central element of the pectoral's design is a cartouche containing three cloisonné hieroglyphs forming the prenomen of Senwosret (Sesostris) II. Two solar falcons flank the cartouche; on each bird's head the jeweler has placed a sun-disk with a uraeus and pendant *ankh* sign ("life"). A tiny figure of Heh, the god of eternity, sits beneath the cartouche and between the falcons. He holds two hieroglyphs for "year," and a tiny sign representing "one hundred thousand" hangs from his right arm. These potent visual images combine to form a rebus signifying that the sun-god gives hundreds of thousands of years of life to Senwosret II.

Belief in the efficacy of amulets seems to have increased in the Middle Kingdom. Individual amulets, such as oyster shells, and figures of gods and animals, were suspended from cords and worn around the neck or wrist. One group of amulets, so-called motto clasps, consist of several hieroglyphs conveying good wishes to the wearer such as "All life and protection."

Images of the scarab or dung beetle (*Scarabaeus sacer*), a symbol of solar rebirth first documented in the Old Kingdom, grew in popularity during the Middle Kingdom. The top of a scarab reproduced the animal's rounded body; its flat bottom was often inscribed with the name and titles of the owner. Scarabs were often hung from the neck, attached to bracelets, or tied to the finger with thread or gold wire. Because the scarab symbolized regeneration, its use was mostly amuletic. However, the bottom of a scarab could be impressed onto a clay sealing that closed a vessel, box, or door. The resulting impression, identifying the wearer, indicated ownership.

Middle Kingdom jewelers continued to produce flexible bracelets in the Old Kingdom form: rows of tiny beads held in place by spacer bars and fastened by metal clasps. On pieces made for women of the royal house, the clasps often featured either the name and epithet of the ruling king or individual hieroglyphs for "protection" or "stability." A common form of Middle Kingdom bracelet displays a pair of small couchant gold lions set among a single strand of beads. Perhaps related to this leonine iconography are anklets consisting of a string of amethyst beads with one or more pendant gold or silver claws.

Middle Kingdom women of all social classes, from queens and princesses to serving girls, frequently wore slender beaded girdles on their hips. The most elaborate examples have hollow gold beads representing cowrie shells, a symbol of fecundity in Egypt, as well as fish and single and double leopard heads. Pellets were often placed in these beads and produced a rattling sound when the girdle was worn.

Earrings appear only sporadically in the Middle Kingdom. They have no known prototypes in Egypt and may have been adopted from the neighboring cultures of western Asia or Nubia.

The Seventeenth Dynasty and New Kingdom

In the five and one-half centuries between the rise of the Seventeenth Dynasty and the end of the Twentieth Dynasty (circa 1630–1075), traditional jewelry forms continued, but some, such as earrings and finger rings, appear in far greater numbers than before. During this period jewelry design evolved from refined works reminiscent of Old and Middle Kingdom style to creations of unprecedented extravagance.

These changes can be seen, for example, in the development of royal head ornaments. The simple silver circlet of King Nubkheperre Intef VI of the Seventeenth Dynasty reproduces the basic form of the Old Kingdom boatman's fillet. A gazelle headdress from the tomb of three minor wives of Thutmose III reflects an emerging interest in innovation tempered by an adherence to tradition. The craftsman fashioned a T-shaped band of gold that was bent to fit over the crown of the head and around the forehead and temples of the wearer. Six inlaid rosettes—four on the fillet proper and two on the sagittal band—hearken back to Old and Middle Kingdom conventions. By the reign of Tutankhamun at the end of the Eighteenth Dynasty, Egyptian aesthetic tastes had come to favor complex, ornate designs apparent in the treatment of the king's diadem. To the ancient form of the boatman's fillet, the craftsman added inlaid gold heads of both a vulture and a uraeus cobra. In a bold departure from earlier forms, the cobra's undulating body arches dramatically over the diadem until it articulates with an intricate papyrus knot at the rear. A pair of thin gold ribbons

falls from the knot, and two additional streamers, each with a massive uraeus, project from the papyrus blossoms. Floral elements of Old and Middle Kingdom diadems have been reduced to round cloisons inlaid with carnelian around a gold boss (fig. 5).

Earrings of the Seventeenth and the earliest Eighteenth dynasties were made exclusively for pierced ears. The most common examples are of silver or copper wire twisted into a simple loop or spiral. In the mid Eighteenth Dynasty both men and women wore hoop earrings of gold, carnelian, jasper, calcite, shell, bone, and faience. They were either clipped directly onto the lobe or anchored to the ear by a pin or wire attached to the earring. Toward the end of the Eighteenth Dynasty and into the Ramesside period (the Nineteenth and Twentieth dynasties), earrings frequently display intricate patterning by the use of filigree (the attachment of gold or silver wire to a metal surface) and granulation (the affixing of tiny gold or silver balls to a precious metal surface by colloidal hard soldering). Both techniques were known in the Twelfth Dynasty, but the fascination with complex design in the later New Kingdom made them indispensable to makers of fine jewelry (fig. 6).

The *wesekh* became an important element of New Kingdom attire among the royalty and upper classes. Most examples consist of tubular faience beads with an outer row of drop beads

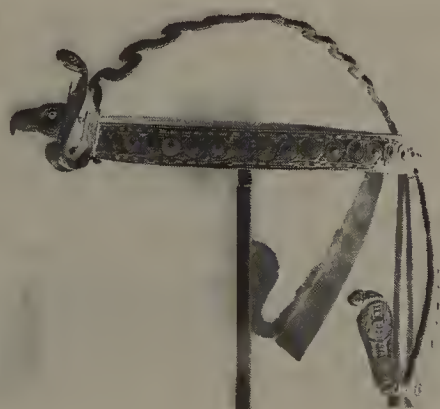


Fig. 5. Gold diadem of King Tutankhamun found in Tomb 62 in the Valley of the Kings in western Thebes. This Eighteenth Dynasty diadem has details in carnelian, obsidian, and colored glass.
EGYPTIAN MUSEUM, CAIRO



Fig. 6. Gold earring of unknown provenance from the Nineteenth to Twentieth dynasties, with decoration added by filigree and granulation.
STAATLICHE MUSEEN, BERLIN

(fig. 7). Throughout the New Kingdom, however, craftsmen devised variations on the *wesekh*. The gold collar of Queen Ahhotep, the mother of King Ahmose (Amosis), the founder of the Eighteenth Dynasty, features beads in the form of stalking lions, seated cats, leaping ibexes and gazelles, winged uraei, and flying vultures. Amuletic devices are also known. A broad collar from the tomb of the minor wives of Thutmose III uses tiny inlaid *nefer* signs (signifying “good” or “beautiful”) in place of conventional tubular beads. During the Amarna period in the late Eighteenth Dynasty, collars with beads imitating floral elements such as lotus petals and date-palm leaves came into fashion.

Versions of the Old and Middle Kingdom flexible, beaded bracelet with gold spacers and clasps appear in the burials of Queen Ahhotep and the three wives of Thutmose III. These tombs also yielded bracelets and armlets of new

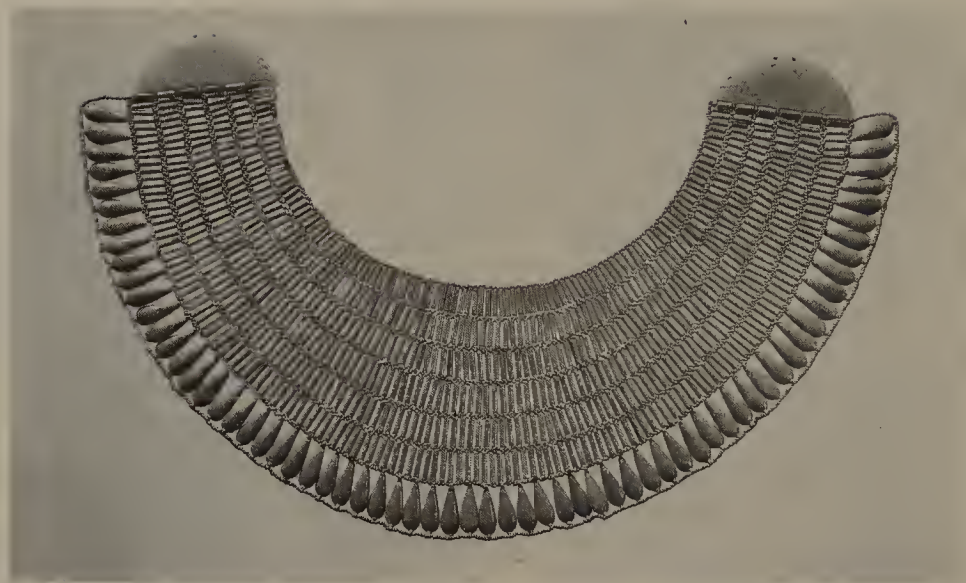


Fig. 7. *Wesekh*-collar made of blue-glazed faience beads dated to the Late Eighteenth Dynasty, reputedly from Thebes. THE BROOKLYN MUSEUM, NEW YORK

and unexpected types. From Ahhotep's tomb comes a complex gold armlet with two sphinxes flanking a hollow cartouche-shaped box decorated with hieroglyphs that render Ahmose's name set into a lapis lazuli background. Each of the wives of Thutmose III had four bracelets decorated with thin inset plaques of carnelian, turquoise, feldspar, glass, or faience ribbed to imitate beadwork.

Many of the bracelets found in the tomb of Tutankhamun show a striking departure from earlier designs and iconography. Symbols of resurrection abound. Several bracelets depict either royal uraei or the king's name in association with scarab beetles, images conveying Tutankhamun's hope for rebirth. Five examples have as their primary element the *wedjat* eye. The *wedjat*, an extremely common amuletic form, signified the eye of the sky god Horus that had been destroyed by the god Seth and magically restored to wholeness. Other bracelets lack figural decoration. Their attraction derives from a masterful use of ornate geometric shapes. The center of one such bracelet is dominated by a large turquoise cylinder set into a heavy gold plaque. The stone is framed by thick granulated balls surrounded by pendant triangles formed from minute granulated beads. At each edge the jeweler placed a metope consisting of a filigree

guilloche, highlighted by granulated balls, set within a rope-pattern border.

Early in the Eighteenth Dynasty jewelers first manufactured scarab rings with the beetle secured to a shank. This innovation permitted the scarab to swivel, facilitating its use as a seal. Related to the swiveling scarab ring was a Thutmose ring design with a rectangular rotating bezel. At the beginning of the dynasty jewelers first manufactured heavy stirrup-shaped metal rings that functioned as signets; the type continued into the Roman period (fig. 8). During the reigns of Amenhotep (Amenophis) III and Akhenaten (first known as Amenhotep IV) artisans made thousands of mass-produced, mold-made faience rings usually inscribed with the name of the ruling monarch.

Tutankhamun's burial goods included several traditional ring forms, such as rotating scarab rings. In keeping with the late Eighteenth Dynasty love of elaborate decoration, some of Tutankhamun's rings display complex figural representations. The gold bezel of one contains a miniature sculptural group comprising a seated figure of the god Re-Harakhty adored by tiny images of the king and a pair of baboons. The composition is enclosed within an oval formed by the outstretched wings of two falcons.



Fig. 8. Twentieth Dynasty gold signet ring reportedly from Saqqara. The hieroglyphic inscription on the bezel may be an unusual representation of the name of Ramesses IV.
THE BROOKLYN MUSEUM, NEW YORK

The Third Intermediate and Late Periods

Most examples of jewelry from the Third Intermediate period (circa 1075–656) were found in the excavations of royal burials of the Twenty-first and Twenty-second dynasties at Tanis and in the Twenty-fifth Dynasty royal tombs at al-Kurru and Nuri near the Fourth Cataract in Nubia.

Craftsmen serving the kings of the Twenty-first and Twenty-second dynasties perpetuated traditional Egyptian forms, iconography, and techniques. Two massive gold collars found on the mummy of the Twenty-first Dynasty ruler Psusennes I continue the ostentation of the later New Kingdom. Originally each collar consisted of six concentric circles of tiny gold disk beads joined to a clasp inlaid with stone and paste hieroglyphs giving the king's names and epithets. From the clasps hang a profusion of intricately woven gold wires terminating in delicate floral buds.

Twenty-fifth Dynasty jewelry tends to favor the creation of new forms executed in an elegant, understated style. The gold choker of a queen consists of two crescent-shaped sheets joined with hinges; the piece has no apparent parallel in earlier Egyptian jewelry. The choker's decoration is minimal: only repoussé figures of a kneeling winged goddess and a scarab. Although jewelry continued to be made and worn in the Late Period (664–332), few dated examples are preserved, so that analysis of the jeweler's art at the time is all but impossible.

ANCIENT EGYPTIAN POTTERY

Materials and Techniques

Egyptian potters preferred to work with either alluvial silt or marl clay. After collecting alluvial silt from the banks of the Nile or from the edges of canals, they kneaded it and added straw or sand to reduce its fluidity. Alluvial silt clay becomes reddish brown when fired. Marl clay was found between layers of desert limestone. Marl is finer than alluvial clay, and after firing it ranges in color from pale yellow to green and white. The hardness of marl clay forced potters to increase its malleability by soaking it in water.

Artisans shaped clay by hand modeling, using a turning device, by throwing, or by molding. Hand modeling was the simplest and earliest pottery-making technique. Coiling, a specialized form of hand modeling, saw the potter build a vessel by superimposing rolls, or coils, of clay. Simple turntables allowed a craftsman to form the neck and rim of a vessel whose body had been hand modeled. The first true potter's wheel, one generating sufficient centrifugal force to permit throwing a vessel, appeared in the Fifth Dynasty. Originally, potters had to turn the wheel with one hand while shaping the vessel with the other. This unwieldy procedure prevented the craftsman from maintaining the constant rate of rotation necessary for accurate throwing. By the Twenty-seventh Dynasty, the kick wheel appeared in Egypt. Mold-made pottery flourished during the Eighteenth Dynasty, when artisans created charming zoomorphic

vases and bottles in the form of women nursing babies, playing musical instruments, or holding pets.

Potters fired freshly modeled vessels in mud-brick kilns. They stacked their wares on open-work platforms and monitored the firing process both to guarantee even heating and to protect against the accumulation of soot.

Decoration

The vast majority of Egyptian pottery is drab and utilitarian, unlike Nubian ceramics, which feature lively geometric and figural designs. Occasionally, however, the Egyptians' love of ornament extended to pottery design and manufacture. During these rare periods, Egyptian craftsmen embellished their vessels by applying sculptural forms, burnishing, incising, and painting. Applied details first appear in the Predynastic period, when artisans added small figures of animals such as hippopotamuses and lizards to the rims and walls of their vessels. On early Eighteenth Dynasty so-called milk jugs, clay pellets and strips were used to represent the head, breasts, and arms of a woman or goddess. Later in the dynasty potters designed a "luxury ware" featuring a gazelle or ibex head applied to the neck of a large amphora.

Burnishing satisfied both practical and aesthetic demands. By vigorously rubbing a pebble over the surface of a pot that was hardened but not yet fired, a potter consolidated the vessel's exterior, making it less porous, while producing pleasing visual effects such as swirling and rippling.

Craftsmen used metal tools, reeds, or combs to incise geometric designs on a pot's exterior. Incised decoration is seen both on Predynastic ware and on vessels made in the Middle Kingdom and Second Intermediate period. The technique enjoyed a much longer tradition in Nubia, and its appearance is sometimes interpreted as evidence of influence from the south.

Potters painted their vessels with a simple reed brush. Most commonly designs were added before firing, using natural pigments that could withstand the high temperatures of the kiln, such as yellow and red ocher, black soot, and cobalt blue. The majority of painted ware was created in the Predynastic period and the years



Fig. 9. Egyptian painted terra-cotta vase with a rounded base, from the Late Eighteenth Dynasty. A series of registers decorates the exterior. The main register, which is in pale blue, black, and red, shows two girls in reed boats. Eighteenth Dynasty, provenance unknown. THE BROOKLYN MUSEUM, NEW YORK

from the late Second Intermediate period through the New Kingdom. Predynastic potters favored monochrome designs. Common motifs include geometric patterns, hippopotamuses, crocodiles, sheep, goats, and Nilotic scenes featuring huge boats. Much later, in the mid Eighteenth Dynasty, artisans produced poly-

chrome designs characterized by a pleasing pastel blue (fig. 9). Manufacture of this blue-painted pottery seems to have been limited to major cities containing a royal palace, such as Memphis (modern Mit Rahina), Malqata on the Theban West Bank, and al-Amarna (Akhetaten).

STONE VESSELS

Materials and Techniques

The Egyptians manufactured stone vessels using an extraordinary variety of rocks and minerals from the deserts flanking the Nile Valley. Periodically certain stones went in and out of favor; others, particularly calcite (or travertine: "Egyptian alabaster"), were common throughout Egyptian history.

The craftsman began with a block of stone that he dressed, using a copper chisel for softer materials or a drill for more obdurate varieties. He then shaped and smoothed the vessel's exterior with hard stone and sandstone blocks. Next the artisan hollowed out the interior, usually with a copper tubular drill. Moistened quartz sand served as the abrasive for drilling all but the most intractable materials.

Historical Overview

As early as the Neolithic period, stone carvers in the Faiyum and at the Delta site of Merimda Benisalama manufactured crude bowls from basalt, one of the hardest of all Egyptian stones. By the Naqada I and II periods, craftsmen were producing a wide inventory of vessel types, including large basalt vases with handles perforated for suspension, squat breccia jars with everted lips and twin string-hole handles, tall storage jars, and zoomorphic vessels, often carved in the form of frogs or ducks. The art of carving stone vessels reached its apogee in the Early Dynastic period, surpassing in quality contemporary examples of sculpture in the round. A vessel's utility remained of major concern, but now, aesthetic factors heavily influenced the stone carvers. They seemed to defy the very hardness of their material, as if attempting to "fossilize" prototypes in metal and basketry. Carvers created vessels with wafer-thin walls and ingenious designs. A schist dish in the

Metropolitan Museum of Art, for example, combines the hieroglyphs *ka* (spirit) and *ankh* to produce the wish, "May my spirit live." When liquid was poured into the stem of the *ankh* sign, it flowed through a series of openings into several shallow channels filling the entire vessel, enabling the liquid to absorb the potency of the hieroglyphs (fig. 10).

Of course, not all Early Dynastic stone vessels show such ambitious designs; most were strictly functional in form. The chambers beneath Djoser's Step Pyramid at Saqqara yielded over thirty thousand plates, bowls, and vases, nearly all reflecting the highest standards of craftsmanship. A number of them had been inscribed during the reigns of kings of the First and Second dynasties. Such vessels may have been used in a king's lifetime or manufactured solely as funerary offerings.

For unknown reasons both the number and variety of stone vessels declined precipitously toward the end of the Old Kingdom. Artisans ceased using many of the hardest stones worked with consummate skill by earlier generations. Eventually, soft translucent calcite became the primary medium for stone vessels. Kohl pots, amphorae, vases, and dishes were made throughout the Middle and New Kingdoms. With only a few exceptions, however, their simple designs remained constant for over a thousand years.

The increased fascination with complex design evident in the late Eighteenth Dynasty and Ramesside period changed the traditional appearance of some stone vessels. For example, one type of squat stone jug of the period shows the body of the vessel embellished with a sunk-relief depiction of a floral garland seemingly tied around the neck. The most flamboyant of all surviving New Kingdom stone vessels date to the reign of Tutankhamun. A calcite unguent vase, for example, consists of a long-necked amphora decorated with the head of the goddess Hathor and inscribed with two of Tutankhamun's names. The amphora is flanked by an openwork design of the heraldic plants of Upper and Lower Egypt. These plants rise up from an incised floral pattern and rest within a frame of twin *renpet* signs signifying "year." At the base of each "year" hieroglyph, the artisan has added the sign for one hundred thousand and a *shen*



Fig. 10. Early Dynastic period slate toilet dish in the form of the hieroglyphs *ka* (spirit) and *ankh* (life). Provenance unknown. METROPOLITAN MUSEUM OF ART, NEW YORK

glyph. Together the unguent vase conveys the wish “May Tutankhamun be given one hundred thousand years of universal power.” The entire composition rests upon a base carved from a separate piece of calcite. This base takes the form of a central stand flanked by openwork *ankh* signs with human arms holding a pair of *was* scepters (dominion) in their tiny hands. (For a drawing of this vase, see “Artisans and Artists in Pharaonic Egypt” in Part 4, Vol. I.)

METALWORK

Materials and Technology

Egyptian metalworkers fashioned objects from copper, bronze, gold, silver, electrum, iron, and lead. By the First Dynasty they had mastered the techniques of melting, hammering, solder-

ing, and casting. Many vessels were manufactured by cold hammering sheet metal over a form made of wood, stone, pottery, or metal. For complex objects constructed from several pieces of metal, workers joined the parts by soldering, riveting, or clamping.

The Egyptians were skilled in both solid casting and the lost-wax process. In the simplest version of lost-wax casting, the artisan first covered a small beeswax image of the object to be cast with a clay compound. When this mass was heated, the clay hardened and the wax melted, producing a perfect negative of the original wax model. Molten metal was then poured into the mold. When the metal had cooled and hardened the mold was broken open, leaving a metallic replica of the model, which then received final cleaning and polishing.

Details could be added by repoussé, chasing, and engraving. Repoussé involved working



Fig. 11. Silver bowl decorated with repoussé figure scenes of Egyptian life, found at Bubastis in the so-called Tell Basta Treasure hoard of Ramesses II, late Nineteenth Dynasty.
METROPOLITAN MUSEUM OF ART, NEW YORK

sheet metal from behind, creating a raised relief pattern on the front surface. Chasing required the worker to press down on the surface with a blunt chisel, indenting details without losing any of the metal. Engraving was an Eighteenth Dynasty innovation.

Types of Metal Objects

Craftsmen fashioned four broad categories of metalwork: vessels, cosmetic objects (primarily mirrors), tools and weapons, and sculpture. The metal vessels surviving from antiquity can only provide an imperfect picture of Egyptian metalwork. Metal is easily melted down, and most plates, ewers, and so forth were recycled in ancient times. Since metalware was far more costly than pottery, the Egyptians deposited baked clay vessels, rather than metal pieces, in tombs as offerings to the dead. Predynastic metal vessels are extremely rare; less than a dozen simple copper plates survive. In the Early Dynastic Period, artisans produced works with handles, rims, and spouts riveted to the bodies of their vessels, no doubt imitating stone and pottery prototypes. Among the most important innovations of Early Dynastic metalworkers were sets of copper vessels consisting of a ewer with a long downturned spout and a deep basin, intended for washing. The large number of these sets excavated in the Early Dynastic tombs at Saqqara testifies to their importance at the beginning of the pharaonic age.

Old Kingdom artisans devised several new vessel types, including bowls soldered or riveted to tall bases, cylindrical ointment jars, and slender elegant *hes* vases (in the form of the hieroglyph *hes*, which signified "praise" or "favor"). In the Middle Kingdom metalworkers preferred forms of understated simplicity.

Representations on the walls of New Kingdom tombs and temples as well as surviving examples demonstrate that throughout the Eighteenth to Twentieth dynasties, both the design and ornamentation of metal vessels became increasingly complex. Craftsmen began producing ring stands with intricate openwork motifs; the bottoms of shallow bowls often feature repoussé floral rosettes surrounded by simple fluting or

lotus petals; and the handles of simple squat juglets reproduce the form of lotus blossoms. Throughout the New Kingdom, artisans working for wealthy, usually royal patrons created ornate gold and silver vessels, often decorated with repoussé figure scenes. The so-called Tell Basta Treasure (probably of the end of the Nineteenth Dynasty), for example, includes a silver bowl with spirited representations of activities in the marshes, adjacent to the banks of the Nile, near the desert edge, and in the fields and vineyards of an Egyptian estate (fig. 11).

Egyptian mirrors consist of cast and hammered metal disks, almost always elliptical in shape. Disks made of copper or bronze polished to a radiant sheen were inserted into a handle of wood, stone, ivory, faience, or metal. In the Old Kingdom, mirror handles were carved in imitation of papyrus columns. Middle Kingdom han-



Fig. 12. Copper mirror from Aswan with a handle in the form of a naked girl, Eighteenth Dynasty. THE BROOKLYN MUSEUM, NEW YORK



Fig. 13. Bronze blade from a ceremonial ax with an openwork representation of an ibex. The blade is dated to the Eighteenth Dynasty and is said to be from the eastern Delta.
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dles come in several forms, including divine standards, simple papyriform designs, papyrus columns with a Hathor head on the umbel, and the *hes* hieroglyph. New Kingdom craftsmen continued to use many of the earlier handle designs but added to their repertoire figures of deities such as the household god commonly called Bes and slender naked maidens (fig. 12).

Metalsmiths produced many utilitarian objects ranging from simple adzes, saws, razors, and knives to finely crafted medical instruments. When intended for everyday use, these implements were generally devoid of decoration. Ceremonial objects, however, display elaborate ornamentation. The blade of an ax made for King Ahmose, for example, has several inlaid scenes, including one of the king dispatching a Asiatic enemy. Openwork ax blades of the Mid-

dle and New Kingdoms show household gods, playful apes, and scenes of animal combat (fig. 13).

CONCLUSION

Egyptologists appreciate the convenience of distinguishing between the major and the personal arts. Yet this division serves to separate two classes of objects that were always related. Jewelers, potters, and metalworkers of a given era were governed by the same stylistic trends that influenced contemporary sculptors and painters. The aesthetic predilections of any period were both discrete to that epoch and common to all the visual arts. Thus the elegant simplicity of Twelfth Dynasty sculpture and relief

has a stylistic congener in the jewelry of that era. Similarly, an earring made for Tutankhamun reflects the extravagant tastes seen in that king's statues or temple reliefs.

BIBLIOGRAPHY

General

A. LUCAS, *Ancient Egyptian Materials and Industries*, revised by J. R. HARRIS (4th ed. 1962); HANS KAYSER, *Ägyptisches Kunsthandwerk* (1969); ROSEMARIE DRENKHAHN, *Die Handwerker und ihre Tätigkeiten im alten Ägypten* (1976); EDWARD BROVARSKI, SUSAN K. DOLL, and RITA E. FREED, eds., *Egypt's Golden Age: The Art of Living in the New Kingdom, 1558–1085 B.C.* (1982); DIANA CRAIG PATCH, *Reflections of Greatness: Ancient Egypt at the Carnegie Museum of Natural History* (1990); and WILLIAM C. HAYES, *The Scepter of Egypt*, 2 vols. (1953, 1959; rev. ed. 1990).

Jewelry

HOWARD CARTER, *The Tomb of Tut-ankh-Amen: Discovered by the Late Earl of Carnarvon and Howard Carter*, 3 vols. (1923–1933); H. E. WINLOCK, *The Treasure of el Lāhūn* (1934); EBBA E. KERN, "The Development of the Ornamental 'Boatman's Fillet' in Old and Middle Kingdom in Egypt," *Acta Orientalia* 24 (1959); CYRIL ALDRED, *Jewels of the Pharaohs: Egyptian Jewelry of the Dynastic Period* (1971); ALIX WILKINSON, *Ancient Egyptian Jewellery* (1971); CAROL A. R. ANDREWS, *Catalogue of Egyptian Antiquities in the British Museum* 6, *Jewellery* 1, *From the Earliest Times to the Seventeenth Dynasty* (1981), and *Ancient Egyptian Jewellery* (1990); and HENRI STIERLIN and CHRISTIANE ZIEGLER, *Tanis: Trésors des pharaons* (1987).

Pottery

JANINE BOURRIAU, *Umm el-Ga'ab: Pottery from the Nile Valley Before the Arab Conquest* (1981); DOROTHEA ARNOLD, ed., *Studien zur altägyptischen Keramik* (1981), a collection of essays on the technology and chronology of ancient Egyptian pottery; PETER LACOVARA, "Pottery," JANINE BOURRIAU, "Clay Figure Vases," and COLIN A. HOPE, "Blue-Painted Pottery," in *Egypt's Golden Age: The Art of Living in the New Kingdom, 1558–1085 B.C.*, edited by EDWARD BRO-

VARSKI, SUSAN K. DOLL, and RITA E. FREED (1982); R. G. HANCOCK, S. AUFREITER, and I. ELSOKKARY, "Nile Alluvium: Soils and Ceramics," in *Bulletin of the Egyptological Seminar* 8 (1986/1987); and COLIN A. HOPE, *Egyptian Pottery* (1987).

Faience and Glass

A. KACZMARCZYK and R. E. M. HEDGES, *Ancient Egyptian Faience: An Analytical Survey of Egyptian Faience from Predynastic to Roman Times* (1983), is a comprehensive technical study based on the collections of the Ashmolean Museum, Oxford. ELIZABETH RIEFSTAHL, *Ancient Egyptian Glass and Glazes in the Brooklyn Museum* (1968), is a detailed and well-illustrated presentation of an outstanding collection. PAUL T. NICHOLSON, *Egyptian Faience and Glass* (1993), is a valuable concise study. Faience and glass are also well studied and presented by PAMELA VANDIVER, ANGELA J. MILWARD, and SIDNEY M. GOLDSTEIN in *Egypt's Golden Age: The Art of Living in the New Kingdom, 1558–1085 B.C.* (1982).

Stone Vessels

A. LUCAS, "Egyptian Predynastic Stone Vessels," *Journal of Egyptian Archaeology* 16 (1930); W. M. F. PETRIE, *The Funeral Furniture of Egypt, with Stone and Metal Vases* (1937); MARGUERITE BERNARD, *Les Vases en pierre de l'Ancien Empire, V^e et VI^e Dynasties* (1966–1967); ALI EL-KHOULI, *Egyptian Stone Vessels: Predynastic Period to Dynasty III*, 3 vols. (1978); THOMAS R. HESTER and ROBERT F. HEIZER, "Making Stone Vases: Ethnoarchaeological Studies at an Alabaster Workshop in Upper Egypt," in *Occasional Papers on the Near East* 1.2, *Monographic Journals of the Near East* (1981); GRETCHEN L. SPALINGER, "Stone Vessels," in *Egypt's Golden Age: The Art of Living in the New Kingdom, 1558–1085 B.C.*, edited by EDWARD BROVARSKI, SUSAN K. DOLL, and RITA E. FREED (1982); and BARBARA A. GREEN, "Ancient Egyptian Stone Vessels: Materials and Forms" (Ph.D. diss., University of California, 1989).

Metalwork

W. M. F. PETRIE, *The Funeral Furniture of Egypt, with Stone and Metal Vases* (1937); WILLIAM KELLY SIMPSON, "The Vessels with Engraved Designs and the Repoussé Bowl from the Tell Basta Treasure," *American Journal of Archaeology*, series 2, 63 (1959); CHRISTINE LILYQUIST, *Ancient Egyptian Mirrors: From the Earliest Times Through the Middle Kingdom* (1979);

Jewelry and Personal Arts in Ancient Egypt

GRETCHEN L. SPALINGER, "Metal Vessels," in *Egypt's Golden Age: The Art of Living in the New Kingdom, 1558–1085 B.C.*; edited by EDWARD BROVARSKI, SUSAN K. DOLL, and RITA E. FREED (1982); ALI RADWAN, *Die Kupfer- und Bronzegefäße Ägyptens von den An-*

fängen bis zum Beginn der Spätzeit (1983); W. V. DAVIES, *Catalogue of Egyptian Antiquities in the British Museum 7, Tools and Weapons 1, Axes* (1987); and BERND SCHEEL, *Egyptian Metalworking and Tools* (1989).

SEE ALSO **Artisans and Artists in Pharaonic Egypt** (Part 4, Vol. I); **Costume in New Kingdom Egypt** (Part 4, Vol. I); **Jewelry and Personal Arts in Ancient Western Asia** (Part 7, Vol. III); and **Jewelry and Personal Arts in Anatolia** (Part 7, Vol. III).

Furniture in Ancient Egypt

PETER DER MANUELIAN

EGYPTIAN HOME DECORATION, including furniture, varied according to the economic station of the individual. While the royal family may have enjoyed chairs of ebony and ivory with decorations inlaid in glass paste, gilded chests for their clothing, and headrests of alabaster, the lower classes probably sat and slept on simple mats on the floor. In a culture where sitting, reclining, or squatting on the ground was commonplace, chairs and stools did not represent the bare necessities they might to modern Western peoples, but were rather additional items, perhaps even luxuries. We are fortunate to have examples of furniture from all levels of ancient Egyptian society. The dry climate, desert sands, and rock-cut tombs have preserved more perishable artifacts from this culture than from any other contemporary civilization. Among them are numerous surviving examples of beds and headrests, chairs, stools, tables, chests, and boxes.

Although common household furniture was often buried with the deceased in the tomb and frequently exhibits signs of wear from daily use, there existed, in addition, funerary furniture constructed specifically for burial and intended for use in the next world. Model and miniature furniture often served in this context. Funerary furniture tended to be of poorer quality, since it would be called upon to serve only a spiritual,

and not a physical, function. Such pieces were often brightly colored, perhaps to compensate for inferior materials.

In addition to the actual pieces discovered, primarily in royal and private tomb chambers, there are countless representations of furniture painted and carved on tomb and temple walls. For the Egyptians, the inscribed text and painted image bore a symbolic significance and could serve the deceased in the next world. Tomb walls of the well-to-do often contained pictures of craftsmen making use of and building furniture items. These are invaluable for the study of furniture.

Furniture was also an important part of temple equipment. Temple reliefs (not covered in depth here) show that the statue of the god in the holy of holies frequently resided in a gilded shrine. All sorts of intricately carved painted chests and elaborate libation vessels made of costly metals are represented in New Kingdom temples. In addition to these scenes, statues in the round often show individuals or couples seated on stools or chairs, giving a three-dimensional representation of the pieces carved in either stone or wood. Taken together, the representations of furniture, along with the actual excavated pieces, constitute a unique corpus of evidence.

CHRONOLOGICAL DEVELOPMENT AND PRINCIPAL DISCOVERIES

Little evidence survives for the study of furniture before the unification of the Egyptian state. Examples from Early Dynastic times abound, and low beds are known from a variety of burial sites. These usually consist of a simple rectangular framework of rounded beams supporting woven rushes for matting, all resting on stubby legs carved in imitation of bulls' legs. The earliest known tables, boxes with sliding lids, chests, and shrines date to the Early Dynastic period (circa 3000–2675 BCE). Most of the patterns and conventions of Egyptian art were set at this time, and these conventions applied to styles of furniture. From this point on, Egyptian craftsmen began to excel in the art of furniture making.

Carved stelae appear in the Early Dynastic period and show as a principal theme the owner seated on a stool before a table of offerings. This vignette was to become the central feature of the Egyptian false door, the focal offering point in the tomb between the realms of the living and the dead. Both the table scene and the style of the stool evolved over the millennia, and scholars have analyzed the evolution of stool legs, backs, and cushions and table stands, rims, and bases. The earliest stools portray legs carved in imitation bulls' legs, a seat of woven rushes, and frame beams with ends in the form of rounded papyrus umbels. The detail carving of the bulls' legs is often quite intricate, showing the musculature and protruding ankle bone or hock. The legs usually rest on supports in the form of truncated cones that lift the stool several centimeters off the floor.

One of the best sources of early home furniture is on the walls of the Third Dynasty tomb of Hesyre at Saqqara. In an exemplary piece of Egyptian wooden relief, Hesyre is shown seated before a tall, thin stand capped by a table full of bread loaves. Paintings on the corridor chapel wall showed a wide range of furniture types, among them four cabinets on legs (even showing the wood grain), a straight-legged table with stretchers, and several stools, some with curved braces and straight legs, others with bulls' legs and rounded side rails (see fig. 1). One stool has a leather seat attached by lashings. Beds are also

represented, showing wood graining and bulls' legs, although one example replaces the latter with an unusual curved type of leg support. The footboards of these beds are shown frontally, in contrast to most later representations. Tent poles from a canopy set were also represented. Other paintings in Hesyre's tomb showed wall hangings, headrests in boxes, games, and vessels.

Examples of sculpture in the round from this period include small statues of men and women seated on stools with straight legs and curved braces. These sculptures show all four legs and so are especially useful since actual examples have not survived.

The Old Kingdom (circa 2675–2130) is perhaps the most poorly documented period for surviving pieces of Egyptian furniture. The number of decorated private tombs containing representations of furniture (and craftsmen at work), however, reaches into the thousands. In keeping with the spirit of the Old Kingdom, when Egypt experienced powerful, tightly centralized control, the furniture of that era has bold, almost massive forms. Both on slab stelae and on the central panel of false doors the table scene occurs over and over again, and the stool under the deceased becomes increasingly elaborate. The well-preserved slab stela of Wepemnofret, in the Hearst (formerly Lowie) Museum in Berkeley, largely portrays a classic form of stool in animal form: side rails ending at the back in papyrus umbels, a cushion placed on top of the seat, bull's leg supports (even showing the two-toned hide of the animal), and truncated conical supports under the hooves. The offering stand, table, and loaves of bread evolved over time, ranging from small and squat to tall and thin in many different combinations.

Other representations from the Old Kingdom include a bed-making scene under a canopy with tent poles; representations of carrying chairs; scenes of craftsmen working on low tables and seated on stools, offering bearers with chests and shrines on carrying poles, and high officials seated on stools on the decks of their ships; and an intimate representation in the Sixth Dynasty tomb of the vizier Mereruka at Saqqara, showing him with his wife seated upon a bed. This bed has lions' legs instead of the bulls' legs most often found in Old Kingdom scenes. Furniture with lions' legs gradually became the dominant

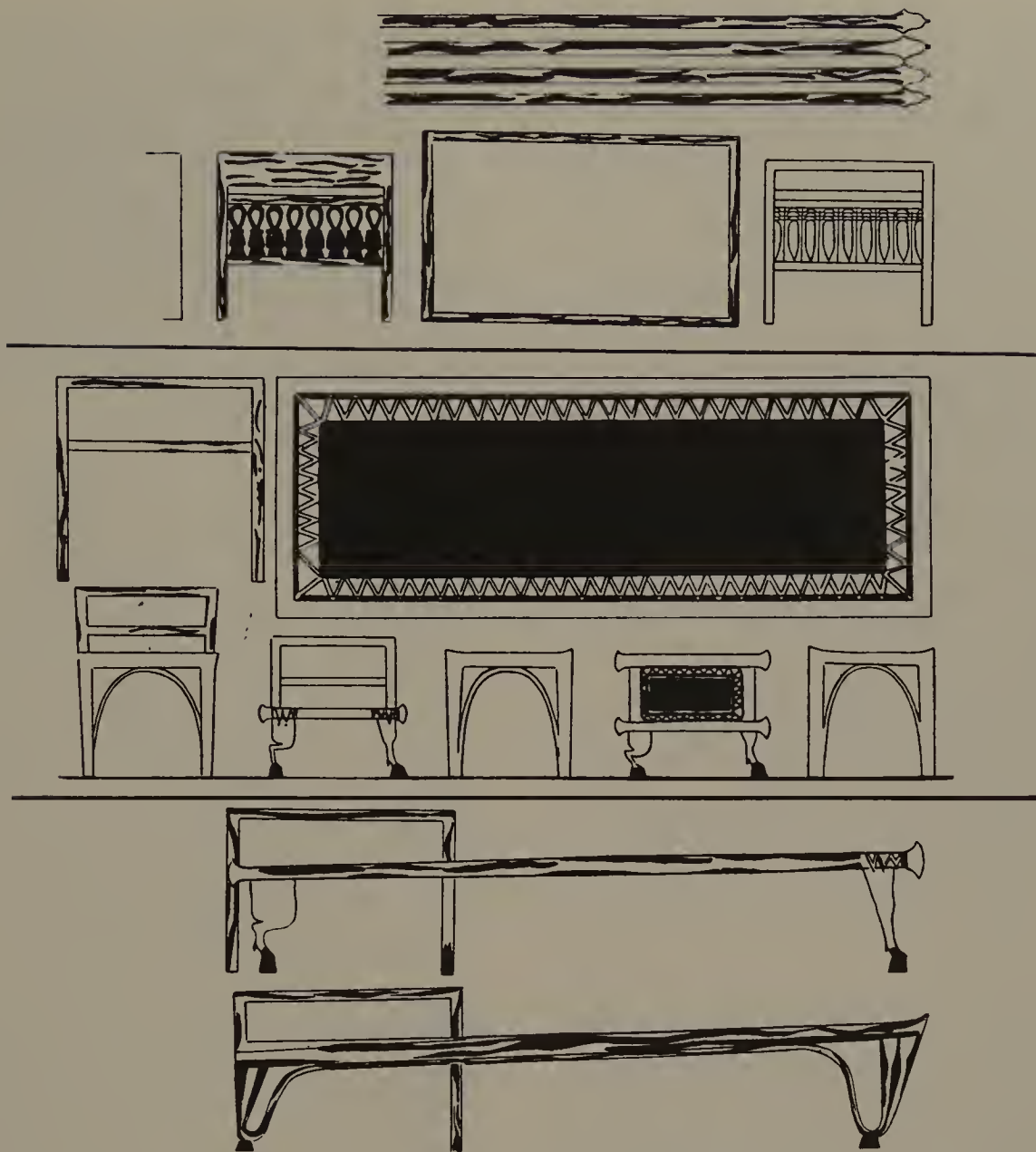


Fig. 1. Wall paintings showing furniture, in the Third Dynasty tomb of Hesyre, Saqqara. J. E. QUIBELL, *THE TOMB OF HESY* (1913)

form in the Middle and New Kingdoms. A thick mattress supports the couple; Mereruka leans against a pillow, while his wife, seated by the tall footboard, plays a harp. More furniture, including chests and cabinets, is represented below the bed.

A rare exception to the general lack of surviving Old Kingdom furniture is provided by the tomb of Queen Hetepheres, the mother of Khufu (Cheops), builder of the Great Pyramid (Fourth Dynasty). This tomb was discovered accidentally in 1925 by the Harvard University-

Museum of Fine Arts, Boston, Expedition. The queen's funeral goods were buried beneath a 30-meter (100-foot) hidden shaft at Giza, on the east side of the Great Pyramid. Like the much later tomb of Tutankhamun, that of Hetepheres contained some of the finest royal furniture ever discovered. These were painstakingly restored, and are on display in the Cairo Museum, while replicas may be seen in the Museum of Fine Arts, Boston. They include a bed, a canopy, a curtain box, two chairs, and a litter or sedan chair.

Although the wood of these pieces had crumbled to dust, the excavators could determine the size and shape of each piece by studying the pattern in which the various gilding layers and inlays had fallen from the wood. Among the remains was an ornate sedan chair constructed of cypress and ebony and decorated with gold bands and terminals in the shape of palm fronds on the carrying poles. The applied gold hieroglyphs preserving the owner's name and titles had fallen in order onto the floor. There was a curtain box made of wood inlaid with faience and gold and silver foil, and a bed canopy of a type known from representations in the tombs of Hesyre and Queen Meresankh III (end of the Fourth Dynasty). The form of the poles is identical to the hieroglyphic sign  ('a, great) and provides a valuable example of the inseparability of Egyptian writing and material culture. The portable structure served as a canopy to provide protection against insects. All around the top were small hooks from which hung sheer linen curtains. The bed itself, like most ancient Egyptian beds, slants down toward the footboard. The low, wide chair that belongs with the canopy set has openwork sides in the form of lotus stems.

Little furniture has been preserved from the Middle Kingdom (circa 1980–1630), when the Old Kingdom emphasis on weighty forms seems to have diminished. Carvings on Eleventh Dynasty royal sarcophagi at Thebes show high-backed rectangular chairs, both with and without arms, that have straight legs and back cushions. Low stools with stubby, peg-like legs barely lifted the sitter off the ground. Folding stools make their first appearance as simple camp stools. Headrests, beds (with linen sheets), stools, and limestone and pottery lamps were excavated by New York's Metropolitan Museum of Art at Middle Kingdom sites such as al-Lisht (ancient Ijtawy), al-Lahun, and Meir. Among the most elaborate Middle Kingdom furniture pieces are the chest of princess Sithathoryunet from al-Lahun—an inlaid ebony casket with a sloping top in imitation of an Egyptian shrine (in the Cairo Museum)—and the wood-and-ivory cosmetic box of the butler Kemuny from Thebes, containing a sliding drawer and lift-off top with storage compartments (in the Metropolitan Museum of Art).

Middle Kingdom representations of funeral goods, including furniture, tend to be on painted wooden coffins rather than tomb walls. Objects needed for a successful afterlife, from foodstuffs to weapons to beds and tables, are depicted in friezes on the coffins. To the south of Egypt, the contemporaneous Nubian Kerma culture buried their dead with furniture items such as beds and stools. Many of these bear similarity to Egyptian forms, although they were often inlaid with figures of mythical beasts unknown in Egypt (see fig. 2).

The largest number of preserved examples of Egyptian furniture dates to the New Kingdom (circa 1539–1075). Numerous pieces survive from both ends of the economic spectrum. Furniture of the period displays a refined, elegant style, no doubt influenced by the cosmopolitan tastes of the time and the fruits of an international sphere of influence. The stools, chairs, and beds of the period exhibit an abundance of detail and a delicate balance of curves and supports. One example is provided by the nearly universal replacement in the New Kingdom of bulls' legs with more elaborate feline legs on furniture in animal form, although this substitution occurred sporadically from as early as the Fourth Dynasty.

Among the most important discoveries to yield furniture are the tomb of Yuya and Tuya, parents of the queen of Amenhotep (Amenophis) III; the famous tomb of Tutankhamun; and the tombs of the architect Kha and of other craftsmen at the workmen's village of Dayr al-Madina. These finds provide instructive evidence of the range of economic variation in items of furniture, from the gilded pieces of monarchy to the simple, undecorated stools and chairs of the craftsmen employed in decorating the royal tombs of the Eighteenth to the Twentieth dynasties. Many of the latter were discovered in an actual settlement, in contrast to the tombs from which most pieces come.

Yuya and Tuya were buried, like royalty, in the Valley of the Kings. Their tomb contained three carved and gilded chairs, two decorated cabinets for jewelry, three beds, and a number of storage chests. Among the finds in the tomb of the architect Kha were thirty-two pieces of furniture, with a preponderance of stools and chests. There were also two beds, chairs, tables, and a lamp on a stand. With the discovery of the



Fig. 2. Reproduction of a wooden bed with rawhide lacing from Kerma, Sudan, 1750–1550 BCE. MUSEUM OF FINE ARTS, BOSTON

tomb of Tutankhamun in 1922, the full range of royal furnishings became apparent. In his three-volume work on the tomb, Howard Carter included about twenty pieces of this fabulous collection. But while individual pieces have been illustrated and described in numerous publications, there has been no comprehensive account of this furniture. Altogether, about fifty pieces, ranging from elaborately decorated, almost rococo beds, chests, and throne chairs to more ordinary stools and chests, were found jumbled together in the tomb.

The chairs, stools, footrests, and beds from the workmen's village at Dayr al-Madina are much simpler in design and construction than any of the above. Excavations there produced numerous simple pieces in varying heights, woven-rush patterns, and leg designs. The rush seats seem to be a sign of domestic use; seats of hardwood, and occasionally leather, were probably the types used in workshops. It has been sug-

gested that the height of a stool was related to the status of the man of the house.

Among the innovations in New Kingdom furniture design was an elaboration on the model of the folding stool. This was elevated from modest beginnings to function as a piece of royal furniture. The stool's terminals were given ducks' heads, an addition to the corpus of furniture with animal forms. Lattice bracing also became more elaborate, sometimes forming such patterns as the hieroglyphic symbol for the unification of the "Two Lands" of Upper and Lower Egypt (*sema-tawy*; also known from earlier periods), sometimes merely creating a complicated system of supporting struts. The classic chair, basically the stool with lions' legs known from earlier times, surmounted by a tall back forming a triangle when seen in profile, also proliferated from the Eighteenth Dynasty onward.

Some of the most informative two-dimensional representations of furniture are in New

Kingdom private tombs at Thebes. Not only are there countless scenes of banquets and feasts, where the tomb owner, his family, and guests all recline on elaborate chairs, but also many representations of craftsmen at work in their studios. These scenes portray the manufacture of everything from chests and shrines to beds, headrests, tables, and stools. Among the most important such paintings are those from the Theban tombs of Rekhmire (number 100; see fig. 3) and Nebamun and Ipuky (number 181).

Furniture forms evolved again in the Late Period (664–332). Under influence from the increasingly integrated Mediterranean world, a number of features were introduced which set this furniture off from the earlier counterparts; only a few examples in the archaizing style of the Twenty-sixth Dynasty could be mistaken for pieces from earlier times. Lattice bracing becomes more complex, with an increasing number of struts, or with pieces arching in several directions.

MATERIALS AND TOOLS

It is remarkable that the Egyptians achieved such a high level of competence in working

wood, a material rare in their own country. What few trees do grow in the two narrow strips of land on either side of the Nile are often unsuitable for cabinetwork. Among those native woods positively identified by laboratory analysis are acacia, almond, fig, date palm, dom palm, persea, sidder, sycamore fig, tamarisk, willow, and poplar. Imported woods, in use from the earliest times onward, included ash, beech, box, carob, cedar, cypress, ebony, elm, fir, juniper, lime, maple, oak, pine, plum, and yew. Most of these were imported from Syria and surrounding regions; cedar from Lebanon was especially popular. The Egyptians visited Lebanon as early as the Second Dynasty. The text known as the *Report of Wenamun* describes the voyage of an Egyptian to Byblos in about 1075 BCE to obtain timber for a new bark of Amun in the temple of Karnak. Ebony was the prized material of master craftsmen and was imported from far to the south of Egypt. The enormous value placed on inlaid ebony furniture is no better illustrated than by a cuneiform letter of Amenhotep III to the king of Babylon, Kadashman-Enlil I, in which beds, stools, chairs, and headrests—all of ebony—were listed as being sent as gifts.

The tools used by Egyptian artisans differed only slightly from those of today. Saws were



Fig. 3. Scene of joiners at work from the Fifth Dynasty Tomb of Ti (top) and cabinetmakers from the Eighteenth Dynasty Tomb of Rekhmire. GEORG STEINDORFF, *DAS GRAB DES TI* (1913) AND N. DE. G. DAVIES, *THE TOMB OF REKH-MI-RÉ* (1935)

pulled instead of being worked in two directions; wood was often lashed to a vertical post that served as a kind of vise for sawing. Adzes with copper or bronze blades formed the ancient version of the plane used today, and bow drills cut holes, such as those needed to fasten woven rush seats and mattresses to chairs and beds. Hammers, chisels, knives, awls, rasps, and levels were all part of the carpenter's equipment (see fig. 4). Wood turning was unknown until after the New Kingdom. The earliest known representation of the lathe is in the late-fourth-century tomb of Petosiris at Tuna al-Gebel. New Kingdom Egyptians possessed the technology required for a lathe; for centuries their bow drill

had operated on the same principle of turning, and wooden legs were apparently held at each end in a vise, freeing both hands for carving, but the extension of the principle of turning from the drill to the wood occurred only under foreign influence in the Greco-Roman period. It is a tribute to Egyptian craftsmen that their work often appears so mechanically perfect as to have once generated a scholarly controversy over the possible use of the lathe.

Joinery was often very elaborate. In addition to simple mortise-and-tenon joints, butt joints, and half joints, the Egyptians used complex shoulder miters, dovetail-housing miters, scarf joints, and a variety of other joints. Pegs and



Fig. 4. Selection of carpenter's tools from the Eighteenth Dynasty: saws, adzes, chisel, and bow-drill. BRITISH MUSEUM, LONDON

pins, commonly of bronze or wood, reinforced all types of joints and were often capped with precious materials where they appeared on the surface of the wood. Curving pieces were either steamed and bent or adapted from natural forks of trees. Angle pieces, braces, brackets, and stretchers supported seats, frames, and legs. In the Old Kingdom, wood was reinforced with thongs and lashings, but by the Eighteenth Dynasty this method seems to have been discarded. The New Kingdom saw an increase in the use of glues, whose adhesive elements were manufactured from animal parts in a process similar to that used today.

Craftsmen often painted their furniture. Elaborate examples are polychrome, while modest ones show a single color, usually white, red, or brownish yellow. Other pieces were left in their natural tones or finished with varnish. Gilding is known primarily from royal examples. Veneer of high quality covered inferior wood to improve its appearance, and marquetry was quite common, with precious stones, ivory, glass, and faience among the materials used for inlay. The finest pieces of furniture were of ebony inlaid with ivory; sometimes inferior woods were "grained" to resemble ebony. Plans for the construction of particular pieces were first drawn on papyrus, but much readjustment occurred during the actual building process.

FURNITURE TYPES

Stools

Of the types of seating constructed by the Egyptians, the stool was by far the most common. Ranging from rough, three-legged work stools to finely inlaid pieces with attractive bracing, the stool supplied the basic seating that the conventional chair does today. Representations show Egyptians from all walks of life seated on stools: workmen, high officials at a gathering, and even the king. The ancient Egyptians, like their present-day counterparts, often sat with knees drawn up almost under the chin—a position that was quite comfortable on a floor mat, low stool, or chair—hence the short height of much Egyptian furniture.

Among the numerous types of New Kingdom

stools are the low stool with woven rush seat only a few centimeters (or inches) off the ground; the animal-leg stool, with legs carved to imitate lions' feet; the three-legged stool of rough, undecorated wood, used primarily for work purposes; the stool with flared legs, usually provided with a leather seat in addition to elegantly carved and ringed legs; the folding stool, often with legs ending in ducks' heads; and the lattice-work stool, with slatted-wood or woven-rush seat and diagonal bracing. Footstools were popular with the well-to-do; wickerwork pieces, as well as small slab seats of stone or wood, were common in poorer houses.

By the Nineteenth Dynasty, the frame of the animal-leg stool is reduced to a simple square form. Mortise-and-tenon joints connect the longer side rails with the shorter front and rear rails. Fore and hind legs are often well differentiated and clearly mark the direction the occupant faced. The claws and the cone-shaped supports on which they stand are usually well carved. Additional support is provided by two cylindrical stretchers, one for each pair of legs. Although Old Kingdom funerary stelae frequently showed the deceased perched upon a stool, the New Kingdom saw this replaced by the classic chair, a more popular seat in representations.

On animal-leg stools without stretchers, reinforcing angular braces underneath the frame supported the joint of legs and rails. The most opulent animal-leg stool derives from the tomb of Tutankhamun. With a double-cove seat and bracework in the form of the hieroglyph for the unification of Upper and Lower Egypt, the piece is more elaborate than any private examples.

The stool with flared legs was employed at all levels of the social scale, from pharaoh to peasant. Plush embroidered cushions accompanied the stools of the elite, while inferior examples often had no lattice bracing. The symmetry of the design and subtle balance between lightness and solidity may account for the popularity of this type of stool throughout the New Kingdom. The earliest examples contain stretchers only, without lattice bracing. During the reign of Amenhotep III, lattice bracing appeared and subsequently became increasingly elaborate on the finer examples, particularly in the Nineteenth Dynasty. In the Ramesside period, two stretchers appeared on each of the four

sides, and three or even four vertical struts are sometimes represented. The simpler versions, however, both with and without bracing, continued throughout the Eighteenth and Twentieth dynasties. Examples in Amarna art show flared stools with bracing in the form of the hieroglyphic sign for unification with papyrus and lotus stems elaborately bound together.

The folding stool, or *faldstool*, is one of the most graceful designs in all of Egyptian furniture. After simple beginnings as a portable camp stool during the Middle Kingdom, it was refined during the New Kingdom with smoothly finished, often inlaid materials and legs terminating in ducks' heads. By the latter half of the Eighteenth Dynasty, the duck's-head folding stool was a common piece of upper-class furniture; it was a status symbol throughout much of the ancient world and may even have served as a gift of royal favor in Egypt. It is composed of three basic elements: seat, legs, and floor runners. Two concave pieces form the frame of the seat, which was originally of leather. Inlaid triangles of ivory often decorate the ducks' heads and form a ring around the "necks"; the eyes are inlaid as well. Rescuing the ducks' heads from an awkward right angle with the floor, the elegant arc of the legs produces a successful motif out of a conceptually difficult design. The Egyptian term for this type of stool is preserved on an ostrakon in Vienna, where it is called "a folding stool with duck's head legs." Among the numerous surviving folding stools are those from the tombs of Kha and Tutankhamun.

A popular household item was the latticework stool, often used in the New Kingdom at social gatherings and banquets. In tomb paintings, the deceased is frequently represented perched upon such a stool, benignly surveying his estate in the shade of a protective canopy; artisans often labored in their workshops seated on virtually identical, though simpler, pieces. The inviting contour of the seat and refined lattice design made for a comfortable, yet solid and portable piece of furniture.

The three-legged stool type was the most utilitarian type. Numerous tomb paintings depict workmen seated upon such stools, engaged in all manner of tasks, from carpentry to jewelry manufacture. The semicircular dished seat resembles a wide saddle, which allowed the rela-

tively unrestricted movement necessary for work. Usually formed from a solid block of wood, it tended to show a distinct front edge, to which the three legs are oriented, two in the front, one at the rear. Shouldered socket joints connected the legs to the underside of the seat. The splayed curve of the legs was achieved naturally with the use of forked branches. These were worked into a rounded shape.

The low stool, which might seem uncomfortably low to modern westerners, suited the Egyptians' popular sitting position. The stubby legs, rounded at the top and modeled with knives, chisels, and abrasives, contained sockets into which the four lists of the frame were inserted. The lists were often placed at slightly different heights in order to stagger the joints and thus ensure their strength. Inside the legs the list tenons might overlap slightly for additional reinforcement.

Chairs

Less common than stools, chairs indicated higher status, although a few crudely made specimens owned by workmen are known. Among the most frequent New Kingdom chair types are the popular classic chair, which was the equivalent of the animal-leg stool with the addition of a slanted back (see fig. 5); the low chair, close to the ground, with a very wide seat, which, in some cases, was capable of supporting a man squatting cross-legged; and the posture chair, so named after chairs with similar seat-to-back angles designed in the modern era at the Bauhaus. Stools, chairs, beds, and perhaps other furniture as well often rested on limestone supports in the shape of truncated cones, which perhaps served the dual purpose of protecting the packed-mud floors and keeping the furniture clean and away from crawling insects. Such supports are still used on occasion in modern Nubia.

The characteristic features of the New Kingdom classic chair are legs in the form of lions' feet and a slanted back reinforced from behind by a vertical framework that resembles in profile an acute triangle. Although the Fourth Dynasty tomb of Queen Hetepheres yielded important royal chairs, no early examples of the classic household chair have come down to us. One of the earliest three-dimensional representations

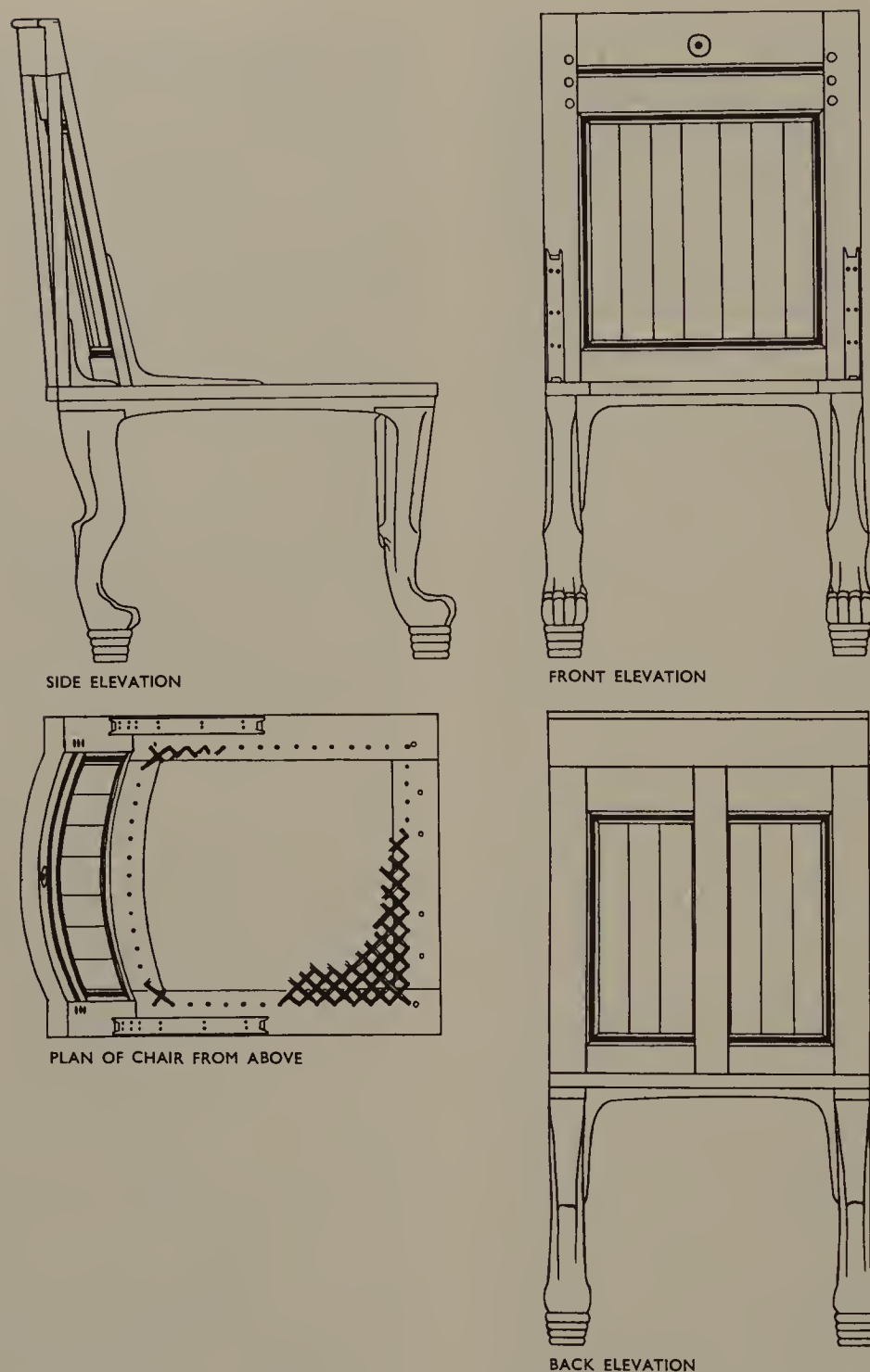


Fig. 5. Plan of a chair found at Thebes from the Eighteenth Dynasty. The original chair, now in the Brooklyn Museum, had strips of a dark wood and bone inlays. DRAWING BY M. S. MACDONALD-TAYLOR IN HOLLIS BAKER, *FURNITURE IN THE ANCIENT WORLD* (1966)

of a chair with a back is in a Sixth Dynasty statue from Dendara (Iunet, ancient Tentyra), although it is not clear whether such a chair was actually in daily use or created solely for funerary purposes.

Lattice bracings, indeed stretchers of any kind, did not appear on classic chairs until at

least the reign of Amenhotep III, and probably later. Thereafter, such bracing is common in representations; the child's chair from the tomb of Tutankhamun provides an actual instance. The bracing became more complex during the Rameside period. Another Rameside feature is a rect-

angular design at the four corners of the chair near the tops of the legs, sometimes plain, often decorated with basketwork or inlaid patterns.

Tables

Tables were probably the most common piece of furniture after stools and chairs. Among their many household uses was dining. Individuals had their own small tables; large communal dining tables are unknown. (People of less exalted status kept their plates beside them on the floor.) Many different types are found, among them the table with splayed legs, often surmounted by a cavetto (or flaring) cornice; the straight-legged rectangular table; and the latticework table.

Splayed-leg tables were known as early as the Old Kingdom. The scarcity of surviving examples may be due to their use for depositing funerary offerings; placed in a tomb chapel so as to be accessible to the servitors of the deceased, such a table would be much more vulnerable than furniture in the burial chamber.

A second popular type of table had straight legs and an unornamented, flat top. Several examples were found in the tomb of Kha at Dayr al-Madina. His tomb also yielded a "garden table" with a slatted top, splayed legs, and simple lattice bracing.

Beds and Headrests

The Egyptians took pride in their beds as a mark of refinement and civility. The hero of the Twelfth Dynasty *Story of Sinuhe* rejoiced at spending the night on a bed again in Egypt after long years of travel. The earliest beds slanted downward from head to foot, had side rails of round poles often terminating in papyrus umbels, and rested on carved imitation bulls' legs. By the New Kingdom, lions' legs become standard, the slope was eliminated, and the side rails were shortened to form a rectangular frame. A few surviving beds have straight, undecorated legs. A scene in the Eighteenth Dynasty tomb of Menkheperresonb shows attendants stringing a mattress. Five beds were found in the tomb of Tutankhamun and three in that of Yuya and Tuya; the tomb of Kha produced another two.

In place of pillows, the Egyptians slept with their heads on wooden or stone headrests, sometimes softened by small cushions. The standard

shape of headrests consisted of a curved neck-piece supported by a pillar with an oblong base. Occasionally human or divine figures were incorporated into the design. The protective deities Bes and Taweret (Thoeris) are very common motifs in headrest decoration. Headrests possessed a magical and amuletic significance for the dead because the head nestled in the curving neck-piece resembled the hieroglyph for the horizon, , which showed the sun rising between two cliffs. The identification of the deceased with the morning sun—and all its implications of regeneration—was thus quite vivid. The pillars of headrests were sometimes inscribed with such funerary epithets as "justified," or "repeating life." Occasionally headrests imitated the form of a folding stool.

Chests and Boxes

Chests and boxes came in all shapes and sizes and served countless purposes. The Egyptians stored their clothes in boxes rather than closets or chests of drawers. Plain rectangular boxes with flat lids and with battens underneath, or with four short legs and a double-pitched gable lid, were used for the storage of linen and household effects. Scribes stored their writing materials in shrine-shaped boxes with vaulted lids and cavetto cornices, but the same type of box might serve for the storage of jewelry and other valuables. The same cavetto cornices and torus moldings are part of the basic formal vocabulary of Egyptian architecture. Small sturdy wooden chests with legs or boxes of reed and rush with elaborate lattice bracing often contained personal toilette articles.

Lamps

In general the Egyptians rose with the sun and went to bed early; however, both private life and work continued at night by the light of oil lamps. Most Egyptian lamps consisted simply of a bowl with a wick; such lamps are often unidentifiable because floating wicks were used, leaving no marks of burning or blackening. However, a wheel-thrown lamp in the Cairo Museum has a central cup in which there still remain fat, a two-ply linen wick, and encrusted salt crystals, probably added to keep the lamp from smoking. A similar lamp with flaring bowl from a New

Kingdom tomb at Dayr al-Ballas (and now in the Lowie Museum at Berkeley) suggests that this type did not undergo much change between the Middle and New kingdoms. Variants from Dayr al-Madina include a simple tripartite pottery bowl with central cup and an elaborate example in the form of a duck.

The tomb of the architect Kha at Dayr al-Madina yielded an elaborate lamp more like a modern floor lamp. A semicircular limestone slab serves as a base for the tall column carved in the shape of a papyrus stem. The column has a peg at the bottom, which fits into a hole in the center of the base. Although the sculptor carefully reproduced the ridged stem characteristic of the papyrus stalk, the umbel at the top has an unusually wide brim that dips downward. Five incised rings ornament the stalk just beneath the umbel. The bowl at the top of the column rests on three wooden pegs and forms the lamp proper. Oblong in shape with a rounded bottom, the bowl has a trapezoidal handle at one end and a spout or beak at the other. The wick, long since lost, was probably of twisted linen coated with oil or animal fat, which also provided the fuel for the lamp. Still remaining inside the bowl are a whitish material (most likely fat), charred fragments, a small twig, and an unidentified substance, possibly an aromatic.

As the preceding paragraphs have briefly outlined, the subject of furniture provides a wealth of information on many aspects of Egyptian culture, from techniques of craftsmanship to different levels of the social hierarchy. Additional study, as well as the discovery of additional material, will increase our knowledge of both the funerary practices and daily life of the ancient Egyptians.

BIBLIOGRAPHY

CYRIL ALDRED, "Fine Wood-Work," in *A History of Technology*, vol. 1, edited by CHARLES SINGER, E. S. HOLMYARD, and A. R. HALL (1954); HOLLIS S. BAKER, *Furniture in the Ancient World: Origins and Evolution 3100–475 BC* (1966); HENRY GEORGE FISCHER, "Möbel," in *Lexikon der Ägyptologie* 4, edited by WOLFGANG HELCK and WOLFHART WESTENDORF (1982), and "Les meubles égyptiens," in *L'Écriture et l'art dans l'Égypte ancienne* (1986); GEOFFREY P. KILLEN, *Ancient Egyptian Furniture*, vol. 1, 4000–1300 BC (1980), and vol. 2, *Boxes, Chests, and Footstools* (1994); E. SCHIAPARELLI, *La tomba intatta dell'architetto Cha* (1927); OLE WANSCHER, *Sella Curulis: The Folding Stool, an Ancient Symbol of Dignity* (1980).

SEE ALSO **Palaces and Temples of Ancient Egypt** (Part 4, Vol. I); **Private Life in Ancient Egypt** (Part 4, Vol. I); **Material, Technology, and Techniques in Artistic Production** (Part 7, Vol. III); and **Furniture in Ancient Western Asia** (Part 7, Vol. III).

Jewelry and Personal Arts in Ancient Western Asia

ZAINAB BAHRANI

JEWELRY PLAYED a very important part in the daily life of the ancient Mesopotamians. The great attention given to the adornment of the body with objects made of gems and precious materials—during life and at death—is reflected in both literature and representational art. Jewelry not only was worn by mortal men, women, and children but also was a necessary part of the garments of cult images and was worn by the anthropomorphic gods and by hybrid supernatural creatures.

Our primary source for the study of Mesopotamian jewelry is the objects recovered from excavations at several sites. This jewelry mainly provides information on the materials and techniques used in various periods. The popularity of certain styles, how they were worn, and by whom they were worn can be learned only to a limited extent from these finds, for most of them are from a burial context and it remains unclear whether funerary considerations dictated the type of jewelry worn. Another drawback to this source is that excavations from the early part of the twentieth century often were poorly recorded by current standards. Frequently, the exact context of a piece of jewelry or the sex and age of the wearer were disregarded. Adding to this drawback is the fact that jewelry cannot always be dated by its archaeological context, since it is often handed down through the generations. Furthermore, the valuable nature of the

materials used in jewelry makes it a primary target for being looted and taken as booty by enemy armies, being melted down and reworked by the Mesopotamians themselves, and being plundered by modern looters.

The second most important source of information for jewelry is ancient texts. Sumerian and Akkadian inscriptions provide a wealth of information on jewelry and jewelers' workshops. The texts also reveal that jewelry was exchanged as gifts between rulers, given as wedding gifts and inheritances, and formed parts of dowries. The texts also record that jewelry was taken as plunder from foreign lands during military campaigns. The statues of the gods or cult images were washed, dressed, and bedecked with jewelry as part of a regular routine, and a number of texts of various periods deal with this phenomenon, providing inventories of the jewelry of the gods.

Finally, the visual arts provide information on how jewelry was worn in different periods, what styles were worn, and who wore them, thus complementing the first two sources.

JEWELRY IN THE ARCHAEOLOGICAL RECORD

The earliest known Mesopotamian jewelry dates to the seventh millennium BCE and consists ei-

ther of objects made of materials worn in their natural state, such as shells or bones strung together, or materials that were slightly worked, such as cowrie shells sliced into rings and strung with polished stones bored with string holes. Turquoise, obsidian, and steatite were favored stones. They were worn in necklaces, bracelets, and girdles. These types of objects can be seen from examples found in situ in burials and represented on male and female figurines dating to the same time. The early appearance of jewelry in these simple forms suggests that social distinctions between people had already begun and were made manifest through visible objects of adornment.

At the site of Tepe Gawra, a cemetery dating to the late Uruk period (3500–3000 BCE) contained elaborately constructed tombs with stone or mud-brick enclosures and rich burial gifts. Ivory combs and pins covered with gold bands; gold rosettes, pendants, and studs; and amulets and beads were found in these tombs. The body of the occupant of one tomb was strewn with twenty-five thousand beads made of semiprecious stones. Rosettes and crescent-shaped decorations appear to have been sewn onto the garments of the dead. These decorations were made from hammered sheets of gold that were cut into shape. Some of the rosettes had centers of turquoise or lapis lazuli that had been attached with bitumen and four pierced holes for sewing. This is the earliest known occurrence of gold appliqués sewn onto clothing, a practice that continued in Mesopotamia into the Neo-Assyrian period.

These earliest lavish burials at Tepe Gawra coincide with the time of the great urban explosion, the first appearance of monumental architecture, and the invention of writing. This was also a time when southern Mesopotamian colonies appeared from Iran to the Levant, a period of great power and prosperity for southern Mesopotamia. Clearly by this time, a social elite had arisen that could require valuable, skillfully worked objects of adornment in order to distinguish its members from average persons.

Perhaps the one most important source of information on Mesopotamian jewelry is the Royal Cemetery of Ur. Here, at the modern Tell al-Muqayyar, hundreds of burials, mostly dating to the Early Dynastic period (2900–2334 BCE), were

uncovered by Sir Leonard Woolley. Among them was a group of sixteen tombs that contained a lavish display of jewelry, weapons, and vessels made of precious metals, musical instruments, and other decorative art objects, the discovery of which astounded the modern world early in the twentieth century. The tombs consisted of stone chambers roofed with corbeled vaults. Human sacrifice clearly formed part of the burial rites, for bodies of what appear to be a retinue of soldiers, male and female servants, and musicians, and the chariots and animals by which they were drawn, were found at the foot of the entrance shaft leading to the tombs and inside the burial chambers. All of the burial gifts display a high standard of craftsmanship previously unequalled in the minor arts of the Near East.

Among the most impressive objects were the contents of the undisturbed tomb of “queen” Pu-abī (tomb 800b), whose name was inscribed on a lapis lazuli cylinder seal. Pu-abī and her attendants were adorned with lavish head-dresses formed of many parts. Hair ribbons formed of flat gold or silver strips secured by pins were often worn combined with strings of carnelian rings, lapis lazuli cylindrical beads, and gold or silver beech leaves. Large gold rosettes on long upright stems were sometimes worn at the back of the crown. Placed by Pu-abī’s body was a lapis lazuli beaded diadem bearing gold figurines of animals, fruits, and flowers. Decorative hairpins of gold or silver with triangular or fork-shaped heads were placed into the hair at the back of the head of many female attendants. Small gold spirals were found at the heads and shoulders, and seem to have been rings threaded over locks of hair. Necklaces formed of a variety of different shaped beads of gold, silver, lapis lazuli, carnelian, and agate were worn in multiples along with close-fitting collar necklaces usually formed of alternating triangles of gold and lapis lazuli. Gold, silver, and copper pins with heads of lapis or carnelian were used to fasten clothing.

Earrings were worn by all the women in the Royal Cemetery. Large crescent-shaped lobes were soldered together to form a double lunate earring. Sometimes the hollows contained bitumen, perhaps used as a strengthening device for the enormous earrings. Such a technique may imply that the jewelry was made to be worn in



Headdress of "queen" Pu-abu, made of gold, lapis lazuli, and carnelian, from tomb 800b at the Royal Cemetery of Ur, Early Dynastic III period.

UNIVERSITY MUSEUM OF ARCHAEOLOGY AND ANTHROPOLOGY, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA

life and was not produced solely for funerary purposes.

Vessels of gold, silver, copper, obsidian, and alabaster; copper and silver models of *taradas* (a type of boat still used in Iraq today); and gaming boards and lyres inlaid with scenes of shell and mother-of-pearl also formed part of the funerary deposit. Even some of the reins found on the draft animals were made from lapis lazuli beads that passed through silver rein rings. The finds from the Royal Cemetery reveal that various metalworking techniques were in use by this time in Mesopotamia, including the earliest known examples of granulation, as well as fine hammered work, cloisonné, repoussé, chasing, engraving, and filigree.

Not all the graves in the Royal Cemetery of Ur date to the Early Dynastic period. Several

have been identified as belonging to the subsequent Akkadian and Ur III periods (ca. 2334–2000 BCE), thus providing later examples of jewelry from the same site. Most of the same materials and techniques continued to be used at Ur as well as at Mesopotamian sites to the north, such as Nippur (Nuffar), a number of towns in the Diyala region, and Tell Brak in modern Syria. Bangles or bracelets, known only from the northern site of Mari (Tell Hariri) in the Early Dynastic period, became more common in the south in the Akkadian period and remained popular in later times. At Ur the elaborate headdresses of the Early Dynastic graves were replaced in the graves of the Akkadian and Ur III periods by thin gold or silver engraved frontlets, and the earlier enormous lunate earrings were scaled down.

Perhaps more important in the Ur III period for its excellence of craftsmanship is a necklace found in the Eanna, the temple of Inanna at Uruk (modern Warka). It is made of large biconical agate beads set into gold, with filigree and cloisonné work alternating with small, gold fluted disk beads. One bead was inscribed with the name of the priestess Abbabashti. The small amount of archaeological material from the Ur III period is compensated for by the archival evidence.

Little jewelry has been excavated that can be dated to the first half of the second millennium BCE. The paucity of the archaeological record for this period has led some scholars to declare that many jewelry-making techniques were lost and subsequently had to be relearned from the Kassites, a dynasty of foreign rulers who conquered southern Mesopotamia in the sixteenth century BCE. The textual information and the evidence from the representations of jewelry on sculpture in the round and reliefs, however, do not corroborate this theory. Much could have been looted during such attacks as that of the Hittite army in 1595 or have been melted down and reworked subsequently. Furthermore, cemeteries of the early second millennium have yet to be excavated, and until substantial information is unearthed, the theory of the loss of techniques remains based on an argument from silence.

A jeweler's pot found at Larsa in southern Iraq, dating to the Old Babylonian period, contained fragments of gold and silver objects in various

Jewelers

Jewelers worked mostly on larger objects, such as vessels made of precious metals, statuettes, ceremonial weapons, and furniture that was gold-leafed or inlaid with precious materials. The creation of jewelry, items of physical adornment either for human use or for statues of the gods, formed only a minor part of a jeweler's production. The profession was passed down from father to son, and jewelers' quarters existed in some cities, although the craftsmen were not organized in guilds. No jeweler's workshop has been found, but a jeweler's hoard dating to the Old Babylonian period uncovered at the city of Larsa by French excavators in 1979 contained items that were used in the trade. The deposit consisted of a jar containing bronze tweezers, a small anvil, gravers, a smoothing stone, and sixty-seven small weights, as well as beads of agate, lapis lazuli, carnelian, and hematite and pieces of jewelry in silver, electrum, and gold, clearly meant for melting down and reworking.

techniques, including repoussé and granulation. These broken pieces of metalwork were kept for melting down and reworking, and thus may have been made long before the deposit date of the jar (1749–1712), but are not likely to date earlier than the first part of the second millennium BCE.

At the city of Asshur, in northern Iraq, several graves containing jewelry were uncovered. One grave (tomb 20), dated to the Old Assyrian period by the excavator, Walter Andrae, contained a collection of jewelry that, in style and technique, resembled objects recovered from the latest Ur Royal Cemetery burials, including gold diadems, lobed earrings with fine granulation, and decorative pins. At the same site, the vaulted brick tomb 45 dating to the reign of Tukulti-Ninurta I (1244–1208) housed two skeletons that wore jewelry on the body and clothing. The burial gifts of an ivory pyxis, ivory and bone hairpins, and jewelry were used by the excavator to identify one skeleton as being that of a female. The second skeleton wore gold crescent-shaped earrings with pendants and inlays of stone, and a lapis lazuli necklace composed of five gold and six lapis lazuli plaques.

In 1988 and 1989 Iraqi archaeologists uncovered three royal tombs that contained the most magnificent Mesopotamian jewelry known to date. All three tombs were found in the North-

west Palace built by Assurnasirpal II (883–859) at his new capital of Kalkhu (Nimrud). The first burial was found in the spring of 1988 beneath the floor of room MM. The barrel-vaulted tomb housed a ceramic sarcophagus that had been sunk into the floor. This contained some human bones, the gender of which is as yet undetermined, and many pieces of jewelry and precious works of art. Among the burial gifts were two hundred items of gold, including five pairs of lunate earrings decorated with fine granulation and gold flowers, some having cone-shaped pendant pieces; a large bracelet inlaid with semiprecious stones; and a fibula and chain attached to a stamp seal set into a gold mount similar to the "Nimrud Jewel" found by Max Mallowan in a grave in room DD of the same palace. Also among the gifts were two small glass models of couples making love.

The second subterranean tomb was uncovered in the spring of 1989 in room 49 of the Northwest Palace. The barrel-vaulted chamber was reached by a shaft leading to two stone doors. A rectangular stone coffin held the remains of two bodies. Hundreds of pieces of jewelry and vessels of gold, silver, and semiprecious stones had been deposited with the bodies. More than seventy pairs of earrings and many necklaces were found, but perhaps most noteworthy are a crown of circular bands of gold decorated with three rows of attached gold rosettes and a diadem of woven gold with a tasseled fringe in the front and back and embellished with medallions inlaid with banded agate "eye beads" and two lapis lazuli squares inserted into the rectangular gold forehead plaque. Also noteworthy are four gold cuff bracelets inlaid with round banded-agate "eye beads" surrounded by cloisonné scenes of the well-known Assyrian motif of kneeling winged genies flanking a sacred tree rendered in turquoise, lapis lazuli, malachite, and agate. Enormous hinged bracelets of gold, two massive bracelets with lion-head terminals, and four gold fibulae were also among the finds. Rosettes, stars, and granulated triangles had been sewn onto the funerary garments. Most of the jewelry reflects Assyrian workmanship in both style and iconography, but some other items were clearly imported, such as a Phoenician gold bowl decorated with human and animal figures surrounded by boats in a papyrus thicket.



Gold cuff bracelet inlaid with turquoise, agate, malachite, and lapis lazuli that was discovered at the Northwest Palace of Assurnasirpal II at Kalkhu (Nimrud) in 1989 by Iraqi archaeologists. PHOTO BY BARRY IVERSON/TIME-LIFE PICTURES

A stone slab at the entrance of the tomb bore an inscription identifying the tomb as that of Yabâ, wife of Tiglath-pileser III (reigned 744–727), and cursing anyone who breaks the seal of the tomb and disturbs the burial. However, two of the three inscribed bowls found in this tomb bore other queens' names: Banitu, queen of Shalmaneser V (reigned 726–722), and Talya, queen of Sargon II (reigned 721–705). It is not clear how these names can be associated with the remains of what appear to be two women found in the tomb.

A third tomb was discovered in room 57 shortly after the second find. An entrance shaft led to an antechamber sealed by an inscribed stone slab. Three bronze coffins containing skeletal remains and approximately twenty-three kilograms (almost fifty-one pounds) of gold objects of magnificent quality and workmanship were found there. The most impressive piece was a golden crown in the form of winged genie figures supporting a grape arbor of openwork with small bunches of lapis lazuli grapes suspended inside and pendant pomegranates and rosettes decorating the base. The antechamber led to the barrel-vaulted tomb chamber proper, which contained an empty stone sarcophagus. Inscriptions found in the tomb identify the burial as that of Mullissu-mukannishat-Ninua, wife of Assurnasirpal II.

The exceptional range of jewelry from a firmly

dated context provides new insights on the history of the Mesopotamian art of jewelry making. The majority of the objects found in the three tombs appear to be of Assyrian manufacture, and the unparalleled competence in the craftsmanship and sumptuousness of the intricate designs must make us reevaluate our previous assessments of the capabilities of Assyrian goldsmiths. Some features of jewelry design that have heretofore been considered typical of later Achaemenid work (sixth to fourth century BCE) seem to have been anticipated by Assyrian jewelers. A reassessment of Mesopotamian jewelry and minor arts of the first millennium BCE will certainly follow the full publication of the resplendent finds from these royal tombs.

THE TEXTUAL EVIDENCE

Literary, historical, and economic texts in both Sumerian and Akkadian refer to jewelry in various contexts. Epic tales and poetry mention people—women for the most part—adorning themselves for festive or important occasions or wearing figural decorative pendants for apotropaic purposes. Historical texts refer to the exchange of jewelry as a diplomatic gift between nations and within the Mesopotamian court itself and record the embellishment of a god's image with beads, precious stones, and gold. The last and perhaps most pertinent source is economic texts derived from workshop archives that refer to decorative items of the ritual clothing of cult images and other aspects of jewelry making. Unfortunately, none of these literary genres describes an item of jewelry or how it was made in any detail. All the texts provide names of certain decorative articles of clothing that are said to be of a certain material and size, but exact definitions of the terms used to refer to items of jewelry do not exist. We can only gather information from the combination of what is said of their size, materials possibly used to make them, and how or when they were worn. The explanation of many terms remains a mystery or, at best, under scholarly dispute. Nevertheless, Mesopotamian texts provide a wealth of documentation on jewelry that is not available from the other two sources and, when considered with the archaeological ma-

terial, can be very informative. The following is a small, representative collection of these texts.

Literary Texts

In the Sumerian myth of Inanna and Dumuzi, Inanna, the goddess of love, prepares for the arrival of her bridegroom by bathing and perfuming her body, combing her hair, dressing, and putting on jewelry:

Rings of gold
I put on my hands,
Little stone beads
I hung around my neck,
Straightened their counterbalance
On the nape of my neck.

(Thorkild Jacobsen, *The Harps That Once . . . : Sumerian Poetry in Translation* [1987], p. 17)

This ritual is repeated in the saga in times of joy. When Inanna is mourning or unhappy at discovering the infidelity of her lover, she neglects her personal appearance altogether.

Jewelry was given as gifts by lovers, and to commemorate special occasions. When Kubatun gave birth to a child, her husband, the ruler Shu-Sin, gave her gifts:

A gold pin and a cylinder seal of lapis lazuli! . . .
A gold ring and a ring of silver inwrought.

(Jacobsen, p. 95)

And in a love song, the queen compares Shu-Sin to a jewel:

You are my turban pin,
my gold I wear,
my trinket fashioned by
a cunning craftsman.

(Jacobsen, p. 91)

It was not only queens and respectable women who received jewelry from lovers but harlots as well, as is described in the harlot's destiny by Enkidu in the *Epic of Gilgamesh* (7.4):

Governors and princes shall love you, . . .
The herdsman shall not hold back for you . . .
He shall give you ivory, lapis lazuli, and gold
Rings (and) brooches(?) shall be presents for you.
(Stephanie Dalley, *Myths from Mesopotamia* [1989], p. 88)

Jewelry also played a symbolic role in Mesopotamian literature, as can be seen in *The Descent of Ishtar*, where Ishtar/Inanna is made to gradually remove every item of adornment and clothing at each of the seven gates leading to the netherworld in the following order: the crown on her head; the rings in her ears; beads around her neck; *tudittu* ornaments of her breasts; the girdle of birthstones at her waist; bangles on her wrists and ankles; and her garment. When she questions the process, she is told by the gatekeeper that these are the ways of the netherworld; that is, one must enter unadorned.

Amulets

Objects worn as pendants were believed to have apotropaic or beneficent qualities. There is no known word in either the Sumerian or the Akkadian language for amulets, but small animal- or insect-shaped pendants are described as having been worn on necklaces. For example, in the story of the great flood, Nintu (Bēlet-ili) touches the necklace of fly jewels that the god Anu made for her, swearing that she will never forget the terrible flood. The various materials used for seals, which were also worn on pins on clothing or around the wrists, also seem to have possessed certain magical powers. Some amulets seem to have been appropriate for specific purposes. Women in labor, for example, could wear an image of the demon

Pazuzu as protection for the child. Images of the demoness Lamashtu could also be used to avert the evil of the demoness herself in her aspect as bringer of disease. (Lamashtu is illustrated in "Ancient Mesopotamian Religious Iconography" in Part 8 below.) A metal or stone amulet against Lamashtu was generally a small rectangular plaque engraved on one side with an incantation against the demoness and on the other with an image of Lamashtu. The demoness is usually depicted as having the head of a lion, bird talons, and donkey ears. She holds snakes in her hands, and a piglet and pup suckle at her breasts. Rows of demons and god symbols are also often depicted on these plaques.

In the myth of Etana, the distant past, when the civilized world had not yet been created, is described thus:

At that time the headband and crown had not
been put together,
and the lapis lazuli scepter had not been
brandished.

These are clearly references to the symbols of kingship, and at least some of Ishtar's jewelry mentioned above is symbolic of her power as the goddess of love and war. (See also "Love Lyrics from the Ancient Near East" in Part 9, Vol. IV.)

Economic and Historical Texts

It was not only mortal men and women who prized gems and trinkets of precious metals; the gods, too, required certain articles of adornment for their dress. Beginning in the third millennium, texts record various items of jewelry and ornaments that made up the garments of the cult statues. Small decorative ornaments of gold or silver were sewn onto the clothing of the gods. A Neo-Babylonian text, for example, records 554 stars and 536 golden *hašû* ornaments belonging to the *kusitu* garment of the Lady of Erech, and 706 golden rosettes and 706 golden *tenšû* ornaments from the *kusitu* garment of Nanaya. These gold and silver appliqués must have been similar to the gold rosettes and stars sewn onto the burial garments of the Neo-Assyrian queens.

An Old Babylonian text recording the personal clothes and ornaments of Ishtar of Lagaba lists, besides the usual rings, earrings, and necklaces, six breast ornaments of ivory, two breast ornaments of gold, one vulva of gold, and eight vulvae of silver. Breast ornaments (Akkadian *tudittu*) are a type of object whose nature has not been clearly determined. They have been described by scholars as pendants, toggle pins, and breast shields, but no convincing identification of *tudittu* has yet been made. Vulvae (Akkadian *uru*) models have been uncovered in excavations, often associated with temples of Ishtar, and their identification is fairly clear. They are objects made in the form of female genitals that were most likely given as votive offerings. However, in the case of this particular text, which describes the personal ornaments of

the goddess, they were probably worn by the cult statue.

The earliest textual records of jewelers' workshops date to the Ur III period. An archive from Ur records the business of a large workshop divided into eight departments: metalworkers, goldsmiths, stonecutters, blacksmiths, leather workers, felters, carpenters, and reed workers. The texts list deliveries of material to these craftsmen and orders for certain types of objects. The goldsmiths were commissioned to work on weapons, scepters, silver buckets, ceremonial weapons inlaid with precious stones, and furniture, as well as necklaces, bracelets, rings, and other items of jewelry. Most information about precious metals in the Ur III period comes from the capital city of Ur. Other cities seem to have specialized in the working of nonprecious metals. It is possible that the capital city had a monopoly on the working of gold and silver, as may have been the case in the Isin-Larsa period, when a goldsmith had to be sent from the capital city of Larsa (modern Tell Senkereh) to Ur in order to gold-plate a statue.

The palace archives of Mari, dating to the Old Babylonian period, contain a large number of texts dealing with goldsmiths. Among them is a letter from the priestess Bakhlatum to Ili-iddinam, a jeweler, complaining of the delay



Modern arrangement of gold beads and pendants said to come from Dilbat, circa nineteenth to eighteenth century BCE. METROPOLITAN MUSEUM OF ART, NEW YORK

(four years!) of her order for a necklace and *tuditum*, for which he had already received payment. (See "Artisans and Artists in Ancient Western Asia" in Part 4, Vol. I, for the text of this letter.) Under the rule of Zimri-Lim, Mukanishum was the official in charge of workshops that included jewelers among textile workers, woodworkers, and metalworkers. He provided the artisans with the materials to be worked and the instructions for making the objects, and dealt with the delivery of the finished product.

The Mari palace archives also include inventories that are perhaps more important for the understanding of jewelry because they provide descriptions of items of jewelry and their component parts. One such inventory is ARM 21, no. 247:

1 necklace of flat speckled chalcedony beads including: 34 flat speckled chalcedony beads, [and] 35 gold fluted beads, in groups of 5.

1 necklace of flat speckled chalcedony beads including: 39 flat speckled chalcedony beads, [with] 41 fluted beads in a group that make up the hanging device.

1 necklace with large speckled chalcedony beads including: 26 flat speckled chalcedony beads, and 28 fluted beads in a group.

1 necklace of flat speckled chalcedony beads including: 38 flat speckled chalcedony beads, [and] 39 flat gold beads with granulation.

1 necklace with flat magic beads including: 25 flat magic beads, and 16 flat gold beads.

1 necklace with rounded speckled chalcedony beads including: 256 rounded speckled chalcedony beads, and 258 fluted gold beads.

1 necklace with rounded lapis lazuli beads including: 28 rounded lapis lazuli beads, [and] 29 fluted beads for its clasp.

1 necklace of flat lapis lazuli beads including: 13 flat lapis lazuli beads, and 14 fluted beads in groups.

7 large necklaces with hanging rock crystal beads, their clasps are in gold.

7 small necklaces with hanging rock crystal beads, their clasps are in gold.

1 belt in lapis lazuli, with 14 rows.

Historical texts of various periods record the exchange of jewelry between rulers or the giving of jewelry in the bridal dowry of princesses. One such text was uncovered at Tell al-Amarna in Egypt and dates to 1402–1363. It is a letter written by Tushratta, king of Mitanni, to Amenhotep III listing wedding gifts:

1 hand bracelet, of iron, overlaid with gold; its *mesukku*-birds (have) an inlay of genuine lapis lazuli. 5 shekels of gold have been used on it. 1 anklet of gold, inlaid. 5 shekels of gold have been used on it. 1 *maninnu*-necklace, cut from 35 genuine lapis lazuli stones, 35 *hiliba*-stones, in the center a genuine *hulalu*-stone mounted on gold with a reddish tinge. 1 set for the hand, beads of genuine lapis lazuli, 6 per string, mounted on gold. 6 shekels gold have been used on it. 1 head-binding, of gold, twisted like a torque, fourteen shekels in weight.

It is all of these wedding gifts, of every sort, that Tushratta, king of Mitanni, gave to Nimmureya, the king of Egypt [Amenhotep III], his brother and son in law. He gave them at the same time that he gave Tadu-Heba, his daughter, to Egypt and to Nimmureya to be his wife. (After W. Moran, *The Amarna Letters* [1992], pp. 52–53, 57)

Besides being received as a diplomatic gift, jewelry was acquired as booty in battles, although there are no explicit references to this practice in the texts. Booty lists of the Neo-Assyrian period mention objects made of precious metals, such as vessels and statues, but not necklaces, rings, bracelets, and other types of jewelry. For example, the description of the temple treasures of Haldi, taken from Urartu by Sargon II, mentions no jewelry. However, in a letter from Sennacherib to his son Esarhaddon, a rare reference is made to looted jewelry:

I Sennacherib, king of the world, king of Assyria, have given golden arm rings inlaid with ivory, a golden diadem, golden necklaces, these jewels which are inlaid with speckled chalcedony, banded chalcedony and lapis lazuli weighing 1½ minas 2½ shekels to Esarhaddon my son, after he became called Assur-etil-ilani-ka'in-apla as a present, booty from Bit-Amuk [region of Babylonia]. (After R. F. Harper, *Assyrian and Babylonian Letters*, vol. 14 [1914], p. 1452)

JEWELRY IN THE REPRESENTATIONAL ARTS

As early as the seventh millennium, terra-cotta figures from Mesopotamia had pellets applied next to the ears and on the body, representing what may be earrings and perhaps beading on clothes. Necklaces are painted on female figu-

rines of the Halaf period, and chest bands and girdles on figurines of the Ubaid period. Cylinder seals of the Uruk period representing men bearing offerings to the temple of the goddess Inanna carry what appear to be items of jewelry among the gifts.

In the Early Dynastic period, "goddess" handles on jars (upright handles in the form of nude females) wear multistrand necklaces and breast bands, and female votive figures, in the attitude of prayer, sometimes wear earrings. One example from Nippur has a close-fitting multistrand necklace. Shell and ivory inlay plaques from Mari represent women with large hoop earrings and clothing fastened by pins that hold strings of beads and cylinder seals. There is no indication in the representational arts of this period that men wore jewelry, although girdles and fillets are often represented and may at times have been made of precious metals.

An increase in the amount of jewelry worn by both sexes occurs in the representational arts of the Akkadian period onward. The first representations of men wearing bracelets at the wrist, both bracelets made up of strings of beads and bangles, appear at this time. This coincides with an increase in the archaeological record of bracelets associated with men. Few examples of metal bangles are known from the Akkadian period in southern Mesopotamia, and they do not occur at all on Early Dynastic statuary or reliefs, though bangles were found in the "Mari treasure" dating to the Early Dynastic III period. Perhaps this was a northern type of ornament that became popular in the south only with the ascent of Sargon to the throne.

In the Ur III period, representations of these types of jewelry continue in images of men and women, but male votive worshiper statues of the Gudea Dynasty have no such adornment. Perhaps religious situations required the elimination of jewelry as modesty in dress. Also toward the end of the third millennium, representations of women wearing multistrand heavy necklaces with long counterweights that hang down their backs become common. These are worn by goddesses as well as mortal women, and females still wear hoop earrings. Nude female figurines most often wear multistrand (sometimes beaded) necklaces, large lunate earrings, head ornaments, girdles, chest bands, bracelets,

and anklets. Male deities and mortal men wear bracelets or bangles and necklaces that hang down the chest. At times, the necklace has a barrel-shaped pendant bead in the center flanked by smaller rounded beads. Such a necklace and bracelets are first worn by the Akkadian ruler Naram-Sin in the victory stela from Susa, now in the Louvre; this fashion continues into the Old Babylonian period. (See "Understanding Art of the Ancient Near East: A Personal Account" in Part 11, Vol. IV; the Naram-Sin stela is illustrated in "Furniture in Ancient Western Asia" below.)

Some men in the Mari wall paintings dating to the Old Babylonian period (shown in "Mari: A Portrait in Art of a Mesopotamian City-State" in Part 5, Vol. II) have been described as wearing circular earrings, the material of which cannot be determined. If the identification is correct, then it would be an isolated example of men wearing earrings at this early period. Earrings worn by a man first appear clearly on the altar of Tukulti-Ninurta from Asshur, where the ruler is shown wearing hoops. This representation coincides with the earliest occurrence of earrings associated with a male skeleton in the archaeological record, also discovered at Asshur. From this time on, earrings on men became very common in Assyrian art.

Neo-Assyrian reliefs provide a wealth of information on jewelry, how it was worn, and by whom. This, however, is truer for men than for women and children, because women are less often represented and children even more rarely. At this time jewelry is also represented on supernatural creatures such as winged bulls and lions, winged genies, and fish-men. Male genies wear horned crowns; men wear diadems made of woven or plaited gold with tasseled ends and often decorated with rosette-shaped, round, or rectangular inlaid medallions. At each wrist, both supernatural creatures and men wear a wide bangle with a central, often rosette-shaped medallion. Twisted arm bands are worn on the upper arm. Women continue to wear a variety of earrings, bracelets, and necklaces, as well as diadems with forehead pendants. On seal engravings of this period queens wear crenulated crowns, and the goddess Ishtar is at times shown holding a chaplet of beads. Some Assyrian reliefs depict foreign tribute bearers bring-

ing jewelry to the court, but jewelry taken as booty is not represented.

Little is known of Neo-Babylonian jewelry, although texts refer to jewelers and goldsmiths related to the Eanna temple in Uruk, and the house of a beadmaker was uncovered in Babylon. Even after the fall of Babylon in 539, traditional Mesopotamian jewelry-making techniques, the production of jewelry for cult images, and the traditional organization of jewelers in relation to temples and in particular city quarters continued.

THE MINOR ARTS

Small objects made of precious or semiprecious materials were part of the artistic production of jewelers and lapidaries. Vessels carved with figural scenes, and votive mace-heads bearing animal protomes were carved out of various types of stone. Vessels, containers, and votive or ceremonial weapons were also made of gold and silver, and at times inlaid with semiprecious stones such as lapis lazuli. Ivory, shell, mother-of-pearl, bone, and lapis lazuli were used extensively in Mesopotamia for the inlaid decoration, both figural and geometric, of gaming boards, wall plaques, boxes, and musical instruments. These materials were also used in the statues of the gods, which often consisted of a wooden armature with an overlay of details made of precious material. Small animal figurines were often made of a combination of materials, such as gold or silver, and stone. A fine example of this technique is two statues that were found in the Great Death Pit in the cemetery at Ur. Each is a goat standing on its hind legs, resting its forelegs on a plant before it. The plant, the goat's legs, and the face are of gold. The goat's horns are of lapis lazuli, as is the fleece on its upper back, which consists of individual locks, each carved of lapis lazuli. The inlays of the eyes, eyebrows, and beard of the goat are also of lapis. Silver is used on the belly, and shell is used for various details, including the triangle patterning of the small rectangular pedestal on which the goat stands. (The goat is reproduced in "Reliefs, Statuary, and Monumental Paintings in Ancient Mesopotamia" in Part 10, Vol. IV.)

The technique of glassmaking became fully developed in Mesopotamia by 1600 BCE. Glass was commonly used for vessels and beads but also for small figurines or component parts of other statuary. While there are some unique examples of glass beads from Mesopotamia that date to as early as the third millennium, it is still unclear if these can be seen as representing true glassmaking or if they are vitrified faience, a glazed ceramic compound that was being used in Mesopotamia by 4000 BCE.

Many luxury items were imported or seized as booty. Most prominent among these objects were ivories made by Phoenician and Syrian craftsmen in the early first millennium BCE. Ivory from both hippopotamus and elephant were carved with figural scenes or plant motifs, and were used to make small objects, such as boxes, handles, and combs. Panels of ivory were used in the decoration of furniture. Plaques were carved in relief or in openwork. The panels were then often dyed, inlaid with other materials, or overlaid with gold leaf, and then inserted into, or joined with, wooden furniture members. Although many of the first-millennium ivories were brought to Mesopotamia from the west, a local Assyrian ivory-carving style existed at the same time. Many of the subjects or themes represented on the walls of Assyrian palaces were repeated on the ivory carvings of the period. These include battle scenes, divine animals or genies, and divinities flanking the "sacred tree." Most of these motifs were carved in relief on panels that formed parts of furniture or other large items. However, animal and human figures of ivory also were carved in the round, in the Assyrian style. (An ivory bed is illustrated in "Furniture in Ancient Western Asia" below; see also the ivory carving in "Art and Architecture in Canaan and Israel" in Part 10, Vol. IV.)

CONCLUSION

With the arrival of Alexander the Great in Babylon, in the fourth century BCE, the so-called ancient Mesopotamian culture ended, but jewelers' and craftsmen's techniques continued under Hellenistic, Parthian, and Sasanian rule. Many motifs often represented in Mesopotamian mi-

nor arts, such as animal combats or caprids flanking the "sacred tree," recur in later Islamic arts, such as textiles and ivory carving. Similarly, jewelry forms survived. Traditional middle eastern jewelers still employ most of the techniques known from ancient Mesopotamia and many of the same jewelry forms. Among the jewelry types that survive are wide cuff bracelets, made in modern Mosul, similar to those represented on Assyrian reliefs and found in a gold version in the royal Assyrian tombs. The latter had a hinged clasp of the same kind used on the bracelets in modern times. A traditional Iraqi lunate earring with hinged clasps and an inlaid gem on the opposite side of the clasp is very similar to the earrings found in the Middle Assyrian tomb at Asshur. These are but a few of the many forms that survive. They are not conscious re-creations of antique forms, for they were known long before the earliest archaeologists uncovered ancient Mesopotamian remains.

Besides the survival of forms, techniques, and motifs, and perhaps more noteworthy, is the survival of the traditions of how jewelry is worn and when it is given. Bangles, for example, are worn by women and girls in Iraq and the adjacent countries in multiples of six and are often sold in groups of six. Representations of women wearing bangles in groups of six are well known from the ancient Near East. Also, the tradition of giving jewelry as a wedding gift, a dowry, or a gift to a woman who has just given birth is still common in modern Iraq. Finally, the organization of traditional craftsmen and jewelers into separate but adjacent areas in the marketplace in the modern Middle East must be very similar to the organization of craftsmen's shops in antiquity. A view of Nahr Street in Baghdad, with its

goldsmiths and silversmiths making jewelry and selling it out of the same small cubicles, is perhaps evocative of the jewelers' quarter in ancient Babylon.

BIBLIOGRAPHY

Jewelry in the Archaeological Record

DANIEL ARNAUD, YVES CALVET, and JEAN-LOUIS HUOT, "Ilšu-Ibnišu, orfèvre de l'É.Babbar de Larsa," *Syria* 56 (1979); MUAYAD SAID DAMERJI, "The Second Treasure of Nimrud," in *Near Eastern Studies Dedicated to HH Prince Takahito Mikasa*, edited by MASAO MORI ET AL. (1991); K. R. MAXWELL-HYSLOP, *Western Asiatic Jewellery* (1971); B. MUSCHE, *Vorderasiatischer Schmuck zur Zeit der Arksakiden und der Sasaniden* (1988) and *Vorderasiatisches Schmuck von der Anfängen bis zur Zeit der Achaemeniden* (1992); K. NASHEF, "Archaeology in Iraq," *American Journal of Archaeology* 94 (1990); and JACK OGDEN, *Jewellery of the Ancient World* (1982).

Jewelry in Texts

A. LEO OPPENHEIM, "The Golden Garments of the Gods," *Journal of Near Eastern Studies* 8 (1949); and JACK M. SASSON, "Artisans . . . Artists: Documentary Perspectives from Mari," in *Investigating Artistic Environments in the Ancient Near East*, edited by ANN C. GUNTER (1990).

Minor Arts

IRENE J. WINTER, "Phoenician and North Syrian Ivory Carving in Historical Context: Questions of Style and Distribution," *Iraq* 38 (1976); and CHARLES LEONARD WOOLLEY, *Ur Excavations*, vol. 2, *The Royal Cemetery* (1934).

SEE ALSO *Artisans and Artists in Ancient Western Asia* (Part 4, Vol. I); *Jewelry and Personal Arts in Ancient Egypt* (Part 7, Vol. III); and *Jewelry and Personal Arts in Anatolia* (Part 7, Vol. III).

Furniture in Ancient Western Asia

ELIZABETH SIMPSON

ANCIENT FURNITURE, like modern furniture, was most often made of wood and other organic materials that are subject to decay over time. Consequently, archaeological finds of ancient furniture are rare. Only in Egypt, where the dry climate has helped inhibit the decay process, does buried wooden furniture commonly survive. It is fortunate, then, that a number of sites in western and central Asia have yielded the remains of furniture. In many cases, these consist of decorative furniture fittings of ivory or bronze that had once been attached to wood frames. In a few special instances, actual pieces of wooden furniture have survived nearly intact. Beyond this, much can be understood from depictions of furniture in ancient near eastern art and references to furniture in ancient texts. From these incomplete but informative sources, a history of furniture in the ancient Near East can be reconstructed.

Evidence first becomes plentiful in Mesopotamia in the later fourth and early third millennia BCE, although furniture was certainly used in much earlier times. Little is known about this earliest furniture, although the site of Çatal Hüyük in central Turkey provides some evidence for the Neolithic period (circa 6500–5600 BCE). (Refer to the map in “Ancient Western Asia Before the Age of Empires” in Part 5, Vol. II.) In many of the rooms of the houses and shrines of the village, plastered platforms had been built up, extending out from the walls and into the

interior of the rooms. These were of various sizes and shapes, and seem to have served the purpose of benches, tables, and beds. Recesses in the walls served as cupboards in which food and fuel could be stored. Baskets, skins, clay bins, and clay and wooden boxes were used for storage. These practices must have been common throughout the Near East in ancient times and prevail in many areas in the present day.

Although a number of wooden objects were recovered in the excavations at Çatal Hüyük, no wooden furniture was found. This absence, however, does not necessarily indicate that furniture was not used. Statuettes found at the site show figures that are clearly seated on pieces of furniture. One, identified as a male deity (level VI), sits on a small, square stool; another, a voluptuous goddess (level II), is seated on a grand stool supported on both sides by standing felines (fig. 1). This is the first appearance of a seat with animal supports, destined to appear in various forms as seating for gods, royalty, and the nobility throughout the following six millennia.

FOURTH AND THIRD MILLENNIA (CIRCA 3500–2000 BCE)

Very few pieces of actual furniture survive from the Near East of the later fourth and third millennia, and information about the furniture of this period derives mainly from references in third-



Fig. 1. Goddess seated on a throne supported by two felines. The goddess was found in a grain bin of shrine A.II, Çatal Hüyük, and dates to the sixth millennium BCE. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

millennium texts and depictions in art. Although furniture seems rarely to have been made of stone, it is largely through this medium that early examples have been preserved—in representations in three-dimensional stone sculpture, sculpted stone reliefs, inlaid panels, and scenes on cylinder seals.

Depictions of furniture begin to occur with regularity on Sumerian cylinder seals of the late Uruk/Jamdat Nasr periods (circa 3500–2900 BCE) and continue to appear on seals throughout the third millennium. The representations are often difficult to interpret because of their tiny size and sketchy appearance. Nonetheless, several types can be identified, with the stool the earliest and most common type shown.

Stools

The backless stool is ubiquitous on seals from the late fourth and third millennia, both in simple and more complex versions. Early representations show boxlike stools (fig. 2) that seem to be made either of wood or of reeds (or rush),

often with interior strut work supporting the seat. Other types depicted on seals include stools with sculpted wooden legs joined by horizontal stretchers, folding stools with crossed legs, and stools whose sides are decorated with religious motifs or attributes. One such stool, shown on a seal dating from the Old Akkadian period, has two seated lions on the side, their bodies crossed in a heraldic pose, recalling the stool flanked by felines from Çatal Hüyük.

Representations of stools in sculpture of the third millennium provide more detailed information about their form and the materials from which they were made. Two Early Dynastic statues from Mari (Tell Hariri) depict figures seated on two different kinds of woven reed or rush stools: the singer Ur-Nanshe sits cross-legged on a low, round, cushionlike seat; while the official Ibikhl (fig. 3) sits formally on a tall, cylindrical stool that flares out at the front of the base to accommodate a platform for the figure's feet.

Stools with carved legs and sides are also represented, such as the stools with massive, curving legs on which Gudea sits, the stools with decorative recessed paneling on the stele of Ur-Nammu (fig. 4), and the delicate, carved stools incorporating bull's legs shown on the Standard of Ur (fig. 5). Bull's-leg supports are found on Egyptian furniture from the earliest periods, and lion's-leg supports appear frequently in Egypt in the third millennium; the occurrence of animal legs on Mesopotamian furniture of this period seems to indicate a knowledge of the Egyptian cabinet-makers' work, although the use of animals as supports may have originated in the Near East, the earliest example being the stool with felines from Çatal Hüyük.



Fig. 2. Impression of a cylinder seal dating to the Mesopotamian Protoliterate period (circa 3300 BCE) showing figures seated on stools constructed of wood or rush. PIERPONT MORGAN LIBRARY, NEW YORK

Chairs

Depictions of chairs with backs first occur in Early Dynastic times, but it is not until the Third Dynasty of Ur that representations of chairs become common. The design of these early chairs follows that of stools, and common stool types furnished with backs can be recognized. A king shown on an unusual Neo-Sumerian seal dating to the period of Ur-Nammu (fig. 6) sits on a throne with bull's legs at the rear, recalling the stools on the Standard of Ur; the front leg of the king's chair extends up beyond the seat, curves over to form a low arm, and then rises into a straight back that curls out at the top. This suggests comparisons with contemporary Egyptian chairs: these often have backs that project at the top or are shown with cushions thrown over the backs. The Mesopotamian chair back with curled top



Fig. 3. Statue showing Ibikil, superintendent of the Temple of Ishtar, Mari, seated on a tall, cylindrical stool, Early Dynastic period. LOUVRE MUSEUM, PARIS

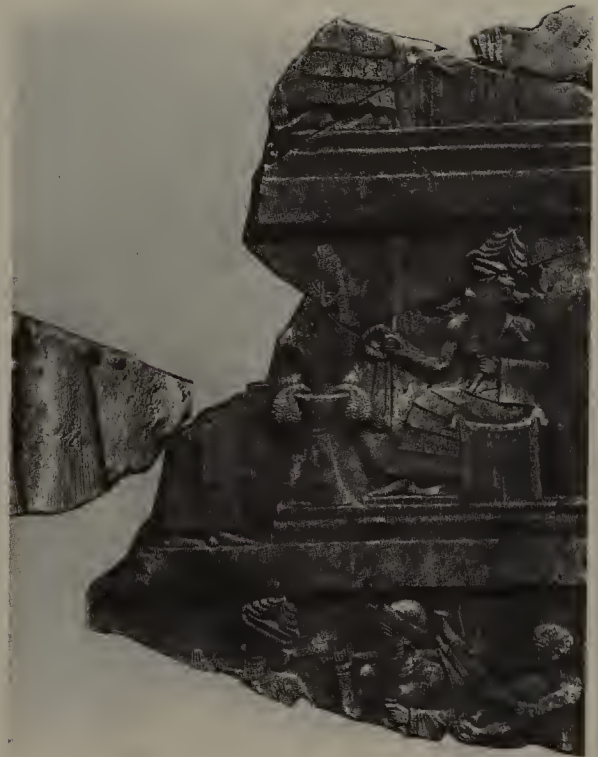


Fig. 4. Detail of the stele of Ur-Nammu, showing a stand in front of a seated god. The god sits on a stool decorated with recessed panelling recalling the facades of Mesopotamian temples. The stele dates to the Neo-Sumerian period and is currently at the University Museum, University of Pennsylvania. THE UNIVERSITY MUSEUM, UNIVERSITY OF PENNSYLVANIA

perhaps reflects one or both of these Egyptian fashions. (See illustrations in "Furniture in Ancient Egypt" earlier in this volume.)

Many of the references to seats in late-third-millennium texts may denote chairs with backs: textual references mention at least fourteen different kinds of wood from which these seats were made, as well as copper, bronze, silver, and gold for plating or overlay. Chairs of this period could be painted, and their seats could be upholstered with hides or leather. References to sedan chairs first occur in texts of the late third millennium.

Tables and Stands

Tables of some sort were in use throughout the third millennium, as is known from their appearance in contemporary art and texts. The rela-



Fig. 5. View of one side of the Standard of Ur, Early Dynastic period, showing banqueters seated on stools. The "standard" was made of wood, overlaid with pieces of shell, lapis lazuli, and red limestone set in bitumen. BRITISH MUSEUM, LONDON



Fig. 6. Cylinder-seal impression showing a king, perhaps Ur-Nammu, seated on a throne with animal legs and a back that curves at the top, Neo-Sumerian period. BRITISH MUSEUM, LONDON

tively few depictions and references that survive are hard to interpret, however, and in two-dimensional representations it is often difficult to distinguish between tables and vessel stands. A common type is of biconical shape, flaring at the top and bottom and pinched in at the middle. A number of tables or stands of this type appear on seals and reliefs of the later third millennium, in some cases serving to receive or hold offerings (fig. 4); some of these seem to be stands holding open bowls, while others may have been proper tables related to the stands, apparently with concave tops.

It is perhaps noteworthy that no tables are shown in the banquet scene on the Standard of Ur, although an inlaid panel from one of the lyres from Ur shows an animal carrying a table laden with food. The table has a thin, flat bottom and a thicker top, supported by vertical and crossed strut work. The table is being used as a kind of tray on a base; actual tables of this type would likely have had tops with upturned rims, facilitating the transport of food. These tray tables would then be related to the tables or vessel stands with concave tops, on which food or offerings could not only be supported but also contained. Tables with concave or tray-shaped tops were to have a long history in the ancient Near East, attested throughout the following two millennia.

Large tables or stands are shown on several third-millennium seals: these have tops, bottoms, and vertical and crossed strut work, resembling the table carried by the animal on the lyre from Ur. In their large size and their position near attendants, these objects look like serving stands or sideboards, with food or vessels sitting on or in their tops. Contemporary texts indicate that tables, like stools and chairs, were made from many kinds of wood and were sometimes overlaid with metal.

Beds and Couches

Very few representations of beds survive from the third millennium, and since beds are often missing from furniture inventory lists of this period, it has been suggested that people normally may have slept on the floor on straw or reed mats. A number of beds are mentioned in texts from the later third millennium; these were made of reeds and wood and could be overlaid

with gold, silver, or copper. Beds could be painted, and an Old Akkadian source refers to a wooden bed with "fruit decoration" and slender feet.

The resting surface of early beds was woven from rope or other materials. A number of model beds made of terra-cotta and dating to the early second millennium BCE show this woven surface, often with figures lying comfortably on it (fig. 7). Linen sheets are listed in texts as early



Fig. 7. Terra-cotta model of a bed from Mesopotamia, dating to the early second millennium BCE. On the bed are figures that may represent participants in a "sacred marriage."
BRITISH MUSEUM, LONDON

as the Ur III period; and mattresses, cushions, and blankets must have been used, as can be surmised from references in texts of the second millennium. Beds were set up in temples, and the beds made for gods were often so important and well known that they were used in year names: “the year in which the bed of Ninlil was constructed” to describe a year in the reign of the king Shulgi, Third Dynasty of Ur (2094–2047 BCE).

Storage Furniture

There is little evidence for storage furniture in the art and literature of the third millennium, and it has been assumed that food and personal possessions generally were kept in boxes, baskets, skins, bins, and in niches in the wall, much as had been the practice during the Neolithic period.

Furniture from Ur: The Royal Cemetery

A few pieces of furniture, furniture fragments, and decorative fittings from the fourth and third millennia have been found in excavations; these oldest remnants are precious, providing evidence for the reality behind the reconstructed history of early furniture. Excavations at Ur showed that some of the Early Dynastic tombs of the Royal Cemetery had contained furniture and other objects made of wood and reed, although these organic materials had almost completely deteriorated in the earth. Metal sheathing and stone and shell inlay that had once been attached to wood frames were recovered, allowing many fine objects to be restored. These include lyres, boxes, gaming boards, and a funerary sledge; although none of these can properly be called furniture, they indicate the imaginative sense of design and the mastery of materials and techniques that must have characterized the work of the best Sumerian cabinetmakers.

A few pieces of furniture were recognized by the excavators of the Royal Cemetery from deteriorated remains of wood or reeds in the soil, providing the only evidence of actual Early Dynastic Sumerian furniture. The tomb of Queen Puabi (PG/800) yielded traces of a wooden storage chest, thought to be a wardrobe, the contents of which had decomposed com-

pletely. The chest was decorated on one side, presumably the front, with a band of human and animal figures made of shell and set against a background of lapis lazuli in the same technique as on the Standard of Ur. Near the queen's wardrobe were found a toilet box inlaid with shell and lapis lazuli and two silver lion heads, thought by the excavator to have belonged to a wooden chair, traces of which were found in the earth.

Grave PG/1847 contained the remains of a table that had four wooden legs and a reed top that was plastered with clay. “Offering tables” of stone or terra-cotta found in a number of graves at Ur closely resemble the biconical tables or vessel stands pictured on seals and monuments (fig. 4).

Furniture from Palace G, Ebla

Excavations at the ancient city of Ebla (Tell Mardikh) in northwest Syria yielded an archive of more than seventeen thousand cuneiform tablets and tablet fragments dating to the third quarter of the third millennium BCE. The tablets were found in the administrative quarter of the Royal Palace, area G, stacked on floors or stored on wooden shelves that were burned in the fire that destroyed the palace. The basic form of these shelves could be reconstructed, providing the earliest evidence for storage furniture of this sort.

In one of the rooms of the palace (L.2601), wooden furniture fragments were found lying in two groups near the east wall. The wood had been carbonized in the fire, but enough had been preserved to allow the excavators to recognize two ornate pieces of furniture. To the north lay the remains of a table with a rectangular top with a raised rim, the earliest instance of an actual table with a tray-shaped top. Below the top and attached to its underside was a decorative, openwork wood frame incorporating carved scenes of animals in combat, heroes dominating animals, and warriors in battle. The table seems to have had four legs, apparently square in section.

To the south of the table were found fragments of a wooden chair decorated with shell inlay. The sides of the chair were carved in openwork, depicting animals in procession within a latticelike frame. The back of the chair seems to

have been decorated with large carved figures, possibly representing royal portraits. The remains of the table and chair from Palace G at Ebla constitute the earliest intact wooden furniture fragments from the Near East and as such provide the first clear evidence of ancient woodworking techniques in the third millennium BCE.

Tables from Horoztepe

Two copper (or bronze) tables, one a miniature table, were excavated from a tomb at the site of Horoztepe in north-central Anatolia. The tables were found in a pile of objects, including copper vessels, figurines, a standard, and broken copper mountings for wooden furniture that had not survived. The larger table had been intentionally crushed, as had many of the objects found with it. The contents of the tomb have been dated to the end of the third millennium BCE.

Both tables had four hollow legs that resembled human legs, terminating in bootlike feet. The legs of each table were arranged in pairs pointing out in opposite directions. The larger table had a flat, oval top with its outer edge turned down; the top of the miniature table was rectangular. The legs of both tables were attached to their tops by means of cylindrical pieces fastened to the underside of the tops; these pieces were then fit down into the tops of the hollow legs, and nails were used to secure the legs to the cylinders.

There is evidence to suggest that the hollow legs had once contained cores of wood, and it seems possible that the top of the larger table, with its downturned rim, had once overlaid a wooden top. This technique recalls the third-millennium textual references to metal plating and overlay on pieces of furniture. The Horoztepe tables are the earliest surviving complete pieces of furniture from the Near East, the ancestors—stylistically and technically—of a long line of western Asiatic tables.

SECOND MILLENNIUM BCE

Furniture styles that had prevailed in the third millennium carried over into the second. Stools were still the most common type of seat, and various kinds continued to be used. Compari-

sons can be drawn between second-millennium forms and those of the preceding millennium, noteworthy among these the stool of Shamash on the stele of Hammurabi (see “King Hammurabi of Babylon” in Part 5, Vol. II, for an illustration) and its antecedent on the stele of Ur-Nammu (fig. 4).

Terra-cotta plaques from Mesopotamia dating to the first half of the second millennium show a variety of stools on which musicians and craftspeople are seated. One of these plaques shows a woodworker shaping a table leg with an adze, the earliest representation of a near eastern cabinetmaker (fig. 8). The leg under construction curves at the bottom and ends in a decorative foot, shown braced by the cabinetmaker’s toes as he works with the heavy adze. A tenon projects up at the top of the leg, suggesting the means by which the leg would be joined to the top of the table. Dating to the same period as the plaques are a number of terra-cotta furniture models, including chairs, tables, and beds; some of the beds are equipped with small figures, providing a glimpse of the way these pieces may have been used (fig. 7).



Fig. 8. Old Babylonian terra-cotta plaque showing a woodworker using an adze to make a table leg. LOUVRE MUSEUM, PARIS

Chairs with backs continued in use throughout the second millennium BCE, attested by the terra-cotta models and by representations of chairs on seals. Vessel stands occur on seals of the period as well, along with tables that are now clearly differentiated from the stands. Many of these tables appear to be ornate, some with curved legs that end in bull's feet, numerous examples of which are found on Syrian and Anatolian seals beginning in the first half of the second millennium.

Contemporary texts provide evidence for the furniture of the second millennium and the materials from which it was made, some of the most detailed early references coming from the archive of cuneiform tablets from the palace at Mari. The tablets name woodworkers associated with projects carried out at the beginning of the reign of Zimri-Lim (circa 1780 BCE), including thrones made for the gods Dagan, Annunitum, Ea, Shamash, and Adad. These thrones seem to have been constructed with frames of wood, which could then be plated with precious metal and inlaid with gems. Royal furniture also appears in the Mari texts; the dowry of Princess Shimatum included two beds, fifteen chairs, three stools, one table, and four serving trays, an indication of the kinds of pieces that would have been found in a well-furnished royal apartment. For traveling, sedan chairs were used; women and children rode in large wheeled beds pulled by oxen. The Mari texts provide evidence for details of furniture construction, including the use of cords, sinews, and glue for the assembly of furniture, and leather for upholstery and appliqué.

Against this background of literary references and depictions of furniture in art may be set numerous fragments of actual furniture from the second millennium BCE. It is the objects themselves that bring to life the furniture of the second millennium, for it is in this period that large collections of wooden furniture and ivory furniture attachments begin to be found.

Wooden Furniture from Jericho

Fifty or more pieces of wooden furniture were recovered at Jericho from twenty-two Middle Bronze Age tombs (circa seventeenth–sixteenth

century BCE), constituting one of the largest collections of ancient wooden furniture excavated in the Near East. The wood was mostly in poor condition, having been buried in the earth, but many fragments were well enough preserved to allow complete pieces of furniture to be reconstructed on paper.

Tables (twenty-five or more were identified) and stools (twenty-two or more) were the two main types of furniture represented; three tombs had contained beds. The furniture was undecorated and simple in design, but the elements were finely carved. Tables were generally low, with rectangular tops that could have upturned rims or bordering strips added around the edges. Some of the tables had tops that were clearly concave or that incorporated bowl-like concavities in their upper surfaces. The legs of tables were usually poorly preserved, but evidence suggests that they were often curved and sometimes ended in feet carved to look like boots or, as the excavator has suggested, duck's feet or ram's heads. Stools generally seem to have had woven seats and carved legs. Wooden bowls and boxes were preserved in the Jericho tombs as well, some of the boxes decorated with inlaid bone strips, guilloches, and small plaques.

Details of design and joinery were recovered, revealing for the first time evidence of a variety of ancient near eastern woodworking techniques (fig. 9). Mortise-and-tenon joinery, first seen in the furniture from Palace G, Ebla, was the standard method of joinery used in the Jericho furniture. Sophisticated joinery techniques including mitered bridle joints and butt joints with floating tenons (fig. 9, no. 1) and half-lap joints with through tenons (fig. 9, no. 4) indicate a highly developed state of craftsmanship.

Some of the table legs resembled the leg shown on the Old Babylonian terra-cotta plaque (fig. 8), with a tenon extending up from the top. The top tenons of the legs passed up through carved collars that extended down from the undersides of the tabletops (fig. 9, no. 2). The leg tenons could be secured by wedges driven down from the top and by pins running through both collar and tenon. This complex technique seems related to the joinery of the Horoztepe tables at the end of the third millennium BCE; the technique used at Jericho was long-lived, still em-

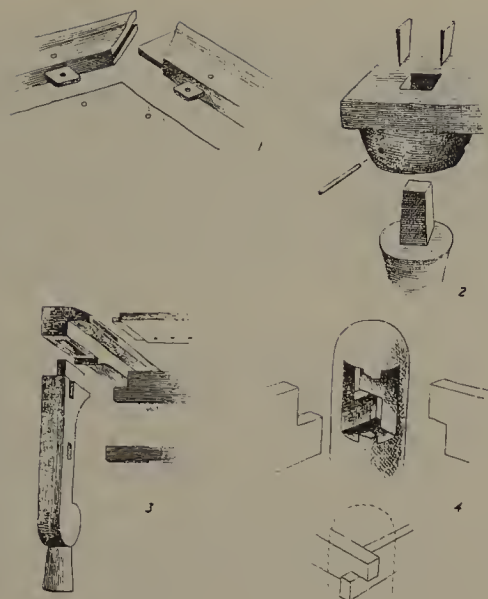


Fig. 9. Joinery details of wooden tables and stools found at Jericho, Middle Bronze Age. KATHLEEN KENYON, *JERICO I, BRITISH SCHOOL OF ARCHAEOLOGY IN JERUSALEM* (1960)

ployed in the first millennium, in evidence at Gordion and Pazyryk.

The Pratt Ivories

The first substantial remains of ancient near eastern ivory furniture date from the second millennium BCE, with the earliest recognizable piece of furniture with ivory fittings represented by a group of ivory furniture attachments given to the Metropolitan Museum of Art by Mr. and Mrs. George D. Pratt in the 1930s. Originally thought to have been Syrian or Phoenician from the first millennium BCE, the Pratt ivories are now recognized as Anatolian, closely related to an ivory plaque excavated from the site of Acemhöyük dating to the Assyrian Colony period (nineteenth–eighteenth centuries BCE).

Finely carved ivory sphinxes (fig. 10) and lion's legs had been joined to form the legs of a chair; several plaques carved in the same distinctive style may have belonged to the chair as well, including a falcon clutching two deer, sphinxes, kneeling lion-headed figures, and lions eating prey. The pieces are hippopotamus ivory, many with traces of gilding preserved on the surface. Several of the ivories are now pink or red, whether from intentional coloring in antiquity or from staining that occurred while they were buried in the soil.

Ivory Furniture from the Late Bronze Age

Numerous ivory or bone inlays from furniture or boxes have been recovered from other Middle Bronze Age contexts, including Ebla and El-Jisr in Israel. However, it is the Late Bronze Age strata at several sites in the Near East—notably Alalakh (modern Tell Atchana), Ugarit (modern Ras Shamra), Pahel (Pella), Lachish (modern Tell al-Duwayr), Tell al-Farah, and Megiddo—that have yielded the largest number of ivory fittings. The earliest of these pieces are the ivory plaques that once decorated two wooden boxes, excavated from the site of Pella in Jordan and dating to the fifteenth century BCE or earlier. Although the wood of the boxes had deteriorated, the form of one of them could be ascertained from the position of the plaques in the soil. The shape of this box and the style and subject of the plaques that decorated its surface indicate marked Egyptian influence, evidence



Fig. 10. Part of an ivory chair leg in the form of a sphinx, Anatolia, circa nineteenth to eighteenth centuries BCE. METROPOLITAN MUSEUM OF ART, NEW YORK

of the continuing importance of Egyptian craftsmanship to near eastern cabinetmakers. The largest collections of ivory furniture fittings from Late Bronze Age contexts are those excavated from the sites of Ugarit in Syria and Megiddo in Israel, the finds dating from the fourteenth through twelfth centuries BCE.

Ivory Furniture from Ugarit

From Ugarit come the remains of a circular table and a headboard or footboard from a bed, found together in a corner of *Cour III* of the Royal Palace (fourteenth–thirteenth centuries BCE). Both were made of elephant ivory. The bed panel was decorated on the front and back, in each case with a series of six carved plaques depicting deities, kings, offering bearers, and other figures. On both sides, the plaques were framed by carved strips at the top and bottom and by openwork sacred trees at the sides. The style of carving and the scheme of the decoration of the bed panel seem to reflect native Syrian traditions, although with clear reference to Egyptian style and motifs.

The top of the circular table was carved with a rosette at the center, surrounded by scenes of animals and mythological beasts. The table top had a raised, decorated rim; it seems to have been supported on a single central leg, probably made of wood. There is evidence that the table-top was inlaid with lapis lazuli and colored glass paste, and it may have been gilded. Other pieces of furniture from the site are represented by thirteen ivory lion's feet found in the area of the palace.

The Megiddo Ivories

A large number of ivory fragments were excavated from the Canaanite palace at Megiddo (level VIIA) in a three-room section that has been called the Treasury. The pieces were found scattered in a small area and are dated variously within the fourteenth–twelfth centuries BCE, with one of the latest pieces, a model pen case, bearing the cartouche of Ramesses III (circa 1187–1156 or later). A total of 382 ivories has been cataloged and published. These were apparently the remains of wood and ivory furniture and luxury objects that had been disassembled and stored along with other valuable items,

including pieces of gold jewelry and alabaster vessels. The ivories were carved in several different styles and represent many kinds of objects. More than forty pieces are conceivably furniture attachments, including frame pieces for a stool or chair and many carved plaques that must have formed part of the decoration for several pieces of furniture.

One of the most beautiful of the ivory plaques from Megiddo is engraved with a scene showing a ruler seated on an elaborate throne that has a back with curled top (or a cushion thrown over the back) and winged sphinxes at the sides (see illustration in “Administration of the State in Canaan and Ancient Israel” in Part 4, Vol. I). The ruler's feet rest on a footstool. The type of throne depicted on the plaque occurs in another ivory from Megiddo, a tiny throne of the same form. This fanciful design with winged sphinxes as side supports must have been popular in the Levant during the late second millennium; it appears also on the sarcophagus of King Ahiiram of Byblos, which bears an inscription variously dated within the thirteenth through tenth centuries BCE.

The Amarna Letters

The close ties between the Egyptian pharaohs and Asiatic rulers of the fourteenth century BCE have been documented by the nearly four hundred letters found at the site of Tell al-Amarna in Egypt. Gifts, including furniture, figure prominently in many of the texts. One such gift consisted entirely of a valuable collection of furniture given by the Egyptian pharaoh to the Kassite king Kadashman-Enlil for the Babylonian palace (EA 5); the collection included one bed of ebony overlaid with ivory and gold, three beds of ebony overlaid with gold, ten chairs of ebony overlaid with gold, more than ten footstools of ebony and ivory (some of these overlaid with gold), and several other pieces.

Furniture traveled from the Near East to Egypt as well, with sideboards, beds, and other pieces of furniture (text damaged) recorded in the dowry of a Babylonian princess (EA 13), and a chest of ebony, with a winged disk, overlaid with gold and silver sent from Tushratta of Mitanni as a wedding gift to Pharaoh along with his daughter (EA 22). The Egyptian influence that

has been noted in western Asiatic ivory furniture from the Late Bronze Age is surely a reflection of the cosmopolitan nature of the times, and an indication that imported furniture must have been coveted and collected in many Near Eastern centers.

FIRST MILLENNIUM BCE

Assyrian Furniture

Furniture is widely attested in the Near East in the first millennium BCE, occurring in texts, depictions, and affirmed by archaeological finds of great variety and the highest quality. Regional styles can now be discerned, many of them related to the court styles of Assyria, which themselves reflect both indigenous traditions and influences from abroad. Fine furniture was highly coveted by the Assyrians and collected in large quantities; furniture must have been commissioned from Assyrian and foreign craftsmen alike, made within the kingdom and imported from without, and was even acquired systematically as plunder and tribute from neighboring nations.

Records of tribute paid to Assyrian kings and booty from conquered territories often list furniture as among the most valuable objects obtained from enemy or vassal states. Assurnasirpal II (883–859 BCE) claims to have carried off tables, chairs, and couches of all descriptions, made from valuable woods and ivory, inlaid or overlaid with ivory, silver, and gold. This fine furniture came from all over the realm, notably from areas to the west, and included the rich furnishings from the palace at Carchemish: beds, tables, and chairs made of *taskarinnu* wood, identified by scholars as boxwood. Sargon II (721–705 BCE), on his eighth campaign, plundered the entire contents of the Urartian temple of Khaldi at Musasir; although translation of the text describing the sack of Musasir is problematic, the Assyrians seem to have acquired at the very minimum an ivory couch, ivory tables, boxwood tables, chairs of boxwood with inlay of silver and gold, and the silver bed of the god, covered with gold and jewels. (See “The Kingdom of Urartu in Eastern Anatolia” in Part 5, Vol. II.) Assurbanipal (668–627 BCE) appropriated “all

movable furniture” from the palaces at Susa (modern Shush), and the spoils from his Egyptian campaigns undoubtedly included furniture as well.

In light of this cosmopolitan setting, it is interesting to note that the furniture shown as booty and tribute on Assyrian reliefs is remarkably consistent in style, virtually indistinguishable from the depictions of furniture used by Assyrian kings and their retinues for ritual, ceremonial, and other occasions. Fragments of a basalt obelisk from Nimrud (Kalkhu), known as the Rassam Obelisk, show the receipt of foreign tribute by Assurnasirpal II. The valuables being transported include plush, upholstered chairs and plain and fancy tables. The ornate tables have legs that end in lion’s-paw feet on one table and bull’s hooves on two others. Horizontal stretchers connect the table legs at the middle and below the animal feet, with decorative bases below the lower stretcher forming supports for the feet. Vertical struts support the table top at the interior.

On a relief from the palace of Sennacherib (704–681 BCE) at Nineveh (Tell Kuyunjik), the king’s soldiers carry off eight tables, a chair (or throne), and a bed with a high, curved backrest. The tables are of several types, including two with concave tops and three with flat tops from which animal-head finials project at the front and back. Three of the tables have bull’s-leg feet, joined by stretchers and supported on tapering bases in the same manner as those on the obelisk fragments from Nimrud. Gods could be carried away from fallen cities still seated on their thrones, as seen on a relief from the reign of Tiglath-pileser III (744–727 BCE) from Nimrud. The deities sit on straight-backed chairs with carved legs, resembling the chair on Sennacherib’s relief.

The types of furniture shown carried off by the Assyrians as plunder from other lands find counterparts in the chairs, beds, and tables shown in use by the Assyrian military abroad and, in fancier versions, by the king and his court in the palace. The artists recording the spoils of the kings’ campaigns appear to have made no attempt to distinguish regional styles of furniture; thus, while much Assyrian furniture is shown on reliefs, it is difficult to identify and characterize an “Assyrian style” and to differenti-

ate indigenous from foreign traditions. Depictions of military camps on reliefs from Nimrud and Nineveh show all of the types mentioned above and more, including vessel stands, stools, low tables, and footstools as well. Many of these pieces had lion's- or bull's-leg feet, either set on tapering bases or resting flat on the ground, connected by stretchers or with legs crossed, the latter suggesting furniture that could be folded up for transport.

Royal furniture appears as ornate versions of these same types. Assurnasirpal sits on a carved stool, with his feet resting on a footstool, apparently taking part in a ritual banquet (see fig. 3 in "Art and Ideology in Ancient Western Asia" in Part 10, Vol. IV). The stool of the king suggests a backless throne, recalling the stools of kings and gods in the third and second millennia. The stool is upholstered with a thick cushion, from which fringe hangs down at the sides. Calf heads project from the seat to the front and back, recalling the animal-head projections on the tables captured by Sennacherib. The vertical legs are connected by a stretcher decorated with opposed volutes. Below this, the legs are carved in a series of moldings, the uppermost element resembling a flower with petals or leaves turned down; the molded section terminates in a cylindrical base that sits flat on the ground. The king's footstool has vertical, hornlike projections at the corners and lion's-paw feet on short bases. The legs are connected above and below by stretchers.

Four magnificent pieces of furniture appear on reliefs from Khorsabad, carried by attendants and presented to Sargon II: two kinds of tables, a chair or throne, and a footstool. The footstool resembles that of Assurnasirpal, although it is more ornate, and the lion's-paw feet rest on tall, conical bases resembling the cones that Assyrian genii use to fertilize sacred trees. The legs of Sargon's tables and chair rest on these conical bases as well, and this form recurs frequently on furniture depicted on Assyrian reliefs. One of the tables presented to Sargon has a concave top, supported by a carved central strut and two figures bracing the underside of the top with raised hands. The other has legs made of superimposed figures, carved floral struts supporting the top, and ram's-head finials projecting at two levels. Both tables have lion's feet with flat front

faces above the paws. The chair or throne carried by Sargon's attendants is an elaborate version of the chairs with backs noted above. The back is decorated with standing figures, and more figures support the armrests. The decoration of furniture with such figures has a long history, first appearing on the chair and table from Ebla in the third millennium BCE.

Ornate Assyrian thrones occur in a number of depictions. One of the most impressive is the throne of Sennacherib, on which the king sits while inspecting the booty after the battle of Lachish. Three tiers of figures cover the sides of the throne, the upper row serving to support the armrests from below. The remains of what has been described as a similar throne were found in the early excavations at Nimrud; the wood of the throne had completely deteriorated, but some of the bronze fittings had survived, including panels containing figures of griffins and winged deities, as well as calf or bull heads said to have decorated the arms.

In the most sumptuous of Assyrian banquet scenes, Assurbanipal's queen sits on this type of throne, with carved legs and stretchers but without supporting figures (see "Clothing and Grooming in Ancient Western Asia" in Part 4, Vol. I, for an illustration). With her feet resting on a footstool, she is seated before a table of the traditional type. Its concave top seems here to be draped with a cover that provides a flat surface for the containers and provisions placed on top. The king reclines on his couch, a more elaborate version of the couches noted above. The legs are decorated at the top with small panels showing women in a windowlike setting, carved moldings, capitals, and recumbent lions, all supported by tapered, conelike feet. The stretchers are carved, not with opposed volutes, but with confronted animals. These details suggest that this depiction may represent a couch imported from Phoenicia or Syria. Such furniture was collected by the Assyrian monarchs, evidence of which has been found in great quantity at Assyrian sites.

The Nimrud Ivories: Phoenician and Syrian Furniture

Thousands of finely carved ivory figures, implements, vessels, horse trappings, and attachments

Furniture in the Old Testament

The Ark of the Covenant

One of the most venerated pieces of furniture from antiquity, and one that has fired the imaginations of countless antiquarians, historians of religion, and archaeologists/adventurers throughout history, was the Ark of the Covenant. As described in Exodus 25:10–22, this was the chest built to contain the tablets inscribed with the Ten Commandments, the testimony of God as given to Moses. The portable chest, measuring approximately forty-five by twenty-seven by twenty-seven inches, was reportedly made of acacia wood, overlaid with gold on the inside and outside, and with a gold molding on the exterior. At the base were four rings of gold, two on each side, through which gold-plated poles were slid as a means of carrying the chest. On top of the Ark was a seat of gold with a hammered gold cherub at each side, the wings of the cherubim spread out above to overshadow the seat. It was on this seat flanked by cherubim that the Lord was said to have been invisibly enthroned (1 Samuel 4:4). Biblical tradition places Moses in the thirteenth century BCE, which would make the Ark of the Covenant a Late Bronze Age construction. Aspects of its design recall furniture from that era: the seat flanked by gold cherubim on top of the Ark must have resembled the throne flanked by sphinxes known

from the Megiddo ivories and the sarcophagus of Ahiiram of Byblos.

King Solomon's Throne

The Ark of the Covenant, originally kept in the Tabernacle, was brought to Jerusalem by David and subsequently enshrined in Solomon's Temple. The Temple and Palace complex, as described in 1 Kings 5–8 and 2 Chronicles 1–7, was built with the help of Phoenician craftsmen provided by Hiram I of Tyre, its construction traditionally dated to the tenth century BCE. Within the temple complex was the throne portico in the Hall of Judgment, and it was presumably here that Solomon's great throne was set up. The throne was made of ivory, overlaid with gold (1 Kings 10:18). It is described as having six steps with twelve standing lions, one placed at each end of each step. The throne had armrests decorated with lions, and a calf's head adorned the back. Because of Solomon's association with Hiram I of Tyre and his Phoenician artisans, it has often been supposed that the ivory throne was Phoenician. However, the collection of ivory furniture attachments found at the Israelite capital of Samaria, which may include pieces made locally, suggests the possibility that Solomon's throne could have been a native production.

for furniture and other objects have been excavated at Assyrian sites, the great majority found at Nimrud in the remains of the Northwest Palace, the Burnt Palace, and Fort Shalmaneser, the arsenal southeast of the citadel. The first ivories were found at Nimrud by Austen Henry Layard in the Northwest Palace in 1845, on his second day of excavation. The group subsequently uncovered by him there has been termed the "Layard series," which includes many ivory furniture attachments carved in Egyptianizing styles that have long been attributed by scholars to Phoenician workshops. The backs of some of the pieces in this group are inscribed with fitter's marks in the form of letters in the West Semitic alphabet. The series includes plaques depicting animals, sphinxes, griffins in floral settings, seated figures, and "women at the window," recalling the decoration at the top of the carved legs of Assurbanipal's couch.

In 1855 W. K. Loftus excavated a large collection of carved ivories from the Burnt Palace, the building to the west of the Nabu and Ezida temples in the southeast section of the citadel of Nimrud. The collection, known as the "Loftus group," includes pyxides, bowls, ornate handles, and furniture attachments carved in what has been recognized as Syrian style. The pieces were burned black in the fire that had destroyed the building, apparently in 614–612 BCE, when the city fell.

Excavations at Nimrud were reopened in 1949 by the British School of Archaeology in Iraq. Archaeologists uncovered many additional ivories from the Northwest and Burnt palaces, including a spectacular discovery of furniture fragments that had been thrown into a well in room NN of the Northwest Palace, apparently during the sack of the city. The well had contained two gilded and inlaid plaques depicting

a lion killing an African boy in a papyrus thicket, the “Mona Lisa of Nimrud,” the “Ugly Sister,” and many more finely carved pieces.

In 1957–1963, excavations were carried out in the arsenal of Nimrud, named Fort Shalmaneser by the excavators after its founder, Shalmaneser III (858–824 BCE). Several rooms in this building proved to be repositories for the great collections of ivory furniture amassed by the Assyrian monarchs, substantiating the kings’ claims of plunder and tribute from neighboring states as detailed in the ancient records. One large storeroom, SW7, contained the remains of nineteen magnificent pieces of furniture found in situ. These seem to have been chairs, the ivory backs of which were preserved in position in the soil. The backs were constructed of plaques framed

by vertical and horizontal bordering strips; the plaques were carved with figures shown standing or seated and holding tendrils, often beneath winged disks. On several examples (fig. 11), the figures were framed by trees with volute branches. This recalls the design of the Late Bronze Age ivory bed from Ugarit. One of the backs from SW7 was decorated with three volute trees, and with this back was associated a long carved stretcher that may have belonged to a bed. The stretcher was carved with scenes of animals in combat, reminiscent of the carved stretcher on the bed of Assurbanipal. The ivory furniture from SW7 is thought to have been made in a north Syrian workshop in the ninth or eighth century BCE.

Related to the ivory furniture attachments



Fig. 11. Ivory chair back from Room SW7, Fort Shalmaneser, Nimrud, circa ninth to eighth centuries BCE. The chair back, now in the Iraq Museum, Baghdad, incorporates panels carved in north Syrian style. MAX MALLOWAN AND GEORGINA HERRMANN, *IVORIES FROM NIMRUD*, FASC. 3 (1974)

found at Nimrud are collections excavated from a number of other near eastern sites, including the Assyrian site of Khorsabad; Arslan Tash and Zincirli in the area of north Syria; Hasanlu in northern Iran; Salamis on Cyprus; and Samaria (modern Sabastiyah). One of the largest of these collections was that found at Samaria, established as the capital of Israel in the ninth century under Omri and destroyed by the Assyrians in 722–720 BCE. From this site come ivory furniture fittings in the form of plaques carved with figures and floral elements in several different styles, related to the styles found at Nimrud. Two recumbent lions with mortises in their backs must have formed supports for vertical struts, recalling the lions on the legs of the bed of Assurbanipal. As at Nimrud, several of the pieces are inscribed on the back with letters in the West Semitic alphabet. The variety of styles represented in this collection suggests that at least some of this furniture was imported into Samaria; other pieces may have been made locally. Omri's son Ahab was married to Jezebel, a Phoenician princess, and it is tempting to see in the ivory fittings evidence of Phoenician furniture that Jezebel might have brought with her to Israel.

From Arslan Tash comes a series of ivory furniture attachments related to those found at Nimrud. Many of these pieces have fitter's marks on the back, carved in the West Semitic alphabet, and a number bear Aramaic inscriptions, one reading "[. . .] the son of 'Ammah for Hazael our lord," who has been identified with the ninth-century king Hazael of Damascus. Found in one room of the *Bâtiment aux ivoires* was the ivory sheathing for two rectangular frames that must have been the remains of beds or couches; many of the furniture fittings found in the vicinity may have decorated these beds, while other plaques may have belonged to additional pieces of furniture.

The diverse styles of the ivories found at these sites have long been of interest to scholars, many of whom have worked to establish stylistic groups and then to associate these groups with presumed centers of near eastern ivory carving. A north Syrian tradition has been identified, to which belongs a large number of ivory furniture attachments, including many of the ivories from the Loftus group and the furniture from SW7,

Fort Shalmaneser, Nimrud. A southern tradition has been discerned, comprising "Phoenician," south Syrian, and possibly Israelite styles; associated with these styles are many of the ivories from Samaria, Arslan Tash, and the related ivories from Nimrud, including many of those from the Layard series and from SW37, Fort Shalmaneser. In addition, a group of Assyrian-style ivories from Nimrud, most of which are engraved plaques, can be clearly differentiated from the imported pieces.

Beyond this general characterization of regional styles it has been difficult to proceed. Many of the ivories in question are inscribed, but these inscriptions often consist only of letters in the West Semitic alphabet, and whether the carver spoke Hebrew, Phoenician, or Aramaic often cannot be understood. We cannot, for instance, form a clear picture of Phoenician ivory furniture, although in the remains of the furniture from Salamis on Cyprus, an island heavily settled by Phoenicians, some have seen evidence of the Phoenician style.

Furniture from Salamis, Cyprus

Tomb 79 in the necropolis at Salamis had held two burials, both dating to the late eighth century BCE. The stone tomb chamber had been robbed, but the *dromos* that led to the chamber had been left nearly intact. It was here that excavations were carried out in 1966, uncovering the remains of one of the richest tombs ever discovered on Cyprus. The finds, including dishes containing food remains, amphorae for offerings, iron firedogs and twelve iron spits (obols), remnants of weapons and armor, and hearses and chariots pulled by horses, provide evidence for an elaborate funerary ritual that recalls in many details the grand burial of the hero Patroklos in the *Iliad*.

Among the offerings that had been placed in the *dromos* were several pieces of fine furniture. The wooden frames had disintegrated, but the outlines in the earth could be discerned; fragments of the ivory and metal sheathing and decorations were recovered, allowing a bed, three chairs, and two stools to be identified. A single ivory lion's leg from another piece of furniture, perhaps a table, was preserved as well. The bed and one of the chairs (throne Gamma) were

sheathed in ivory, with details carved in the ornate Egyptianizing style found at Nimrud that has been thought to represent the Phoenician school. Both of these pieces have been reassembled in tentative reconstructions.

Far more unexpected are the two other chairs and the stools, their form and dimensions reconstructed from the deteriorated remains in the soil. One of the chairs (throne Delta) and the stool found next to it were made of wood with ivory decoration. The chair had an arched back and no arms; the stool had four projections that extended from the legs as a continuation of the seat frame, curving up above the level of the tops of the legs. Hypothetical reconstructions of these two pieces have been made, incorporating ivory strips and disks found in the area, arranged along the legs and back of the chair and on the frame of the stool. Throne Alpha (fig. 12) was made of wood, covered with silver plating and decorated with gilded studs. It, too, had completely disintegrated, although stains in the earth allowed it to be reconstructed. The flamboyant design has no known counterparts; the survival of this unique piece can be attributed to the careful excavation of its remains. It must have been furnished with plush cushions, although no trace of these was found. Next to the silver chair was a silver stool, with curved legs that ended at the top in horn-shaped projections, resembling those at the top of Assyrian footstools and some of the north Syrian chair backs from Fort Shalmaneser, Nimrud (fig. 11).

Wooden Furniture from Gordion, Turkey

The furniture excavated at the Phrygian site of Gordion constitutes one of the most important finds of furniture from the ancient world. Excavations carried out in 1900 by a German team and subsequently by the University Museum of the University of Pennsylvania have yielded the remains of more than fifty pieces of carved and inlaid wooden furniture, many in a remarkable state of preservation. Stools, chairs, tables, serving stands, a bed, and a log coffin were excavated from tombs dating to the eighth century BCE, and fragments of furniture were found on the city mound in the destruction level dating to the same period. Wood spoons, plates, bowls, and



Fig. 12. Throne Alpha, found in Tomb 79 at Salamis, Cyprus, late eighth century BCE. The throne was made of wood, plated with silver, and decorated with gilded studs. DEPARTMENT OF ANTIQUITIES, CYPRUS

boxes were preserved as well, evidence of the many wooden objects that were made and used in ancient times but have not generally survived.

Tumulus K-III, excavated in 1900, contained several carved wooden furniture fragments, some of which were inlaid or decorated with bronze studs; the wood deteriorated after its removal from the tomb, however, and the types represented by these fragments cannot now be determined. The finest and most complete pieces of furniture come from Tumulus P, Tumulus MM, and Tumulus W, excavated in 1956, 1957, and 1959, respectively.

Tumulus MM, the largest burial mound in the Gordion necropolis, was called the "Midas Mound" by the excavators, who thought that it might have covered the tomb of Gordion's most powerful ruler, King Midas himself. (See "Midas

of Gordion and the Anatolian Kingdom of Phrygia” in Part 5, Vol. II.) Midas appears in Assyrian records as a contemporary of Sargon II in the late eighth century BCE, and he was known to the Greeks as the first foreigner to dedicate an offering at the sanctuary of Apollo at Delphi: he dedicated a piece of furniture, the throne from which he gave judgment. The Tumulus MM burial consisted of a wooden tomb chamber covered by a huge mound of clay. The clay had served to shield the tomb from excessive moisture, helping to preserve the wood of the chamber and the offerings that had been placed inside. The king had been buried in a massive log coffin; with him were found a large number of bronze vessels, fibulae, and belts, and at least

fourteen pieces of wooden furniture, including nine tables, two serving stands, and the remains of what seem to have been two stools and a chair.

The tables were banquet tables, with tray-shaped tops, a type in evidence at Ebla in the third millennium BCE. The legs were attached to the table tops by means of tenons fit into collars carved from the underside of the tops, a method of construction found in the wooden furniture from Jericho (fig. 9, no. 2), perhaps ultimately related to the Horoztepe copper tables from the late third millennium. Eight of the tables from Tumulus MM were undecorated; the ninth was ornate, made of boxwood and inlaid with juniper in intricate geometric patterns, a tour de force of ancient cabinetry (fig. 13). The top of the inlaid

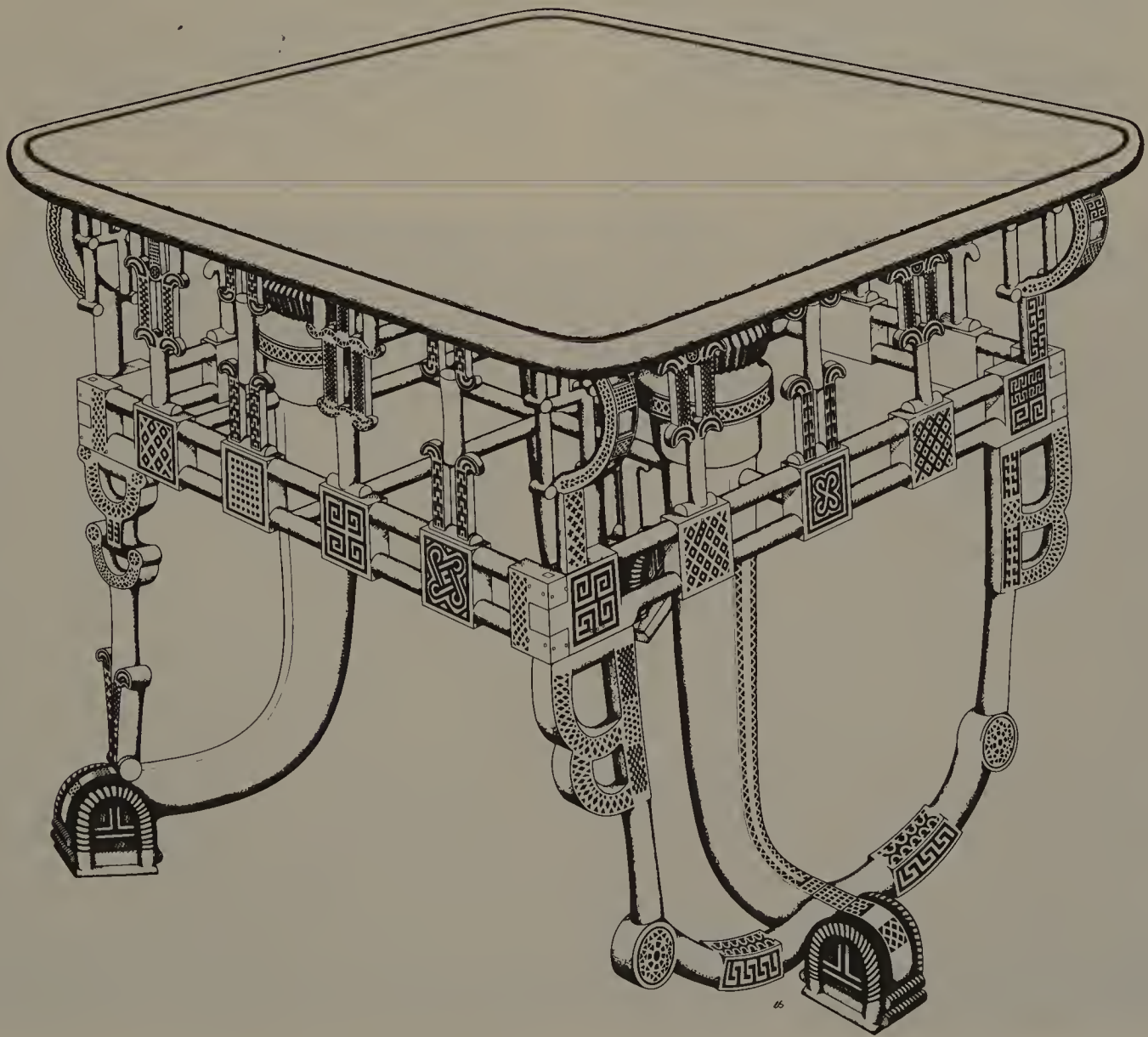


Fig. 13. Phrygian inlaid table, Tumulus MM, Gordion, eighth century BCE. The table, made of boxwood, juniper, and walnut, is here reconstructed in a drawing. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

table was walnut, supported by four handles and fourteen carved struts that rose from the carved frame, recalling the openwork frame of the table from Ebla. The three legs were stylized renditions of near eastern lion's legs, and from the feet rose three decorative struts that supported the four corners of the frame from below. The inlaid designs on the table included rectilinear and curvilinear motifs, all totally abstract; several of the designs have been identified as mazes, perhaps of mythological or religious significance.

The two serving stands from Tumulus MM had faces made of boxwood, inlaid with juniper in swastikas and other square designs set within a lattice of thousands of tiny diamonds and triangles (fig. 14). Most of the swastikas and squares exhibit a special kind of symmetry, allowing them to be turned and flipped to obscure an underlying pattern. Set into the face of each stand is a rosette supported by lion's legs. The

rosette has been identified as a symbol of the Phrygian goddess Cybele, based on the resemblance between the stands and several monumental carved rock facades in western Phrygia where the goddess was worshiped in a niche carved into the face of the monument. Each stand had a top shelf supported by a single back leg (fig. 15). The shelves were carved with three open rings to hold round-bottomed bronze cauldrons, ten of which were found in the tomb. The serving stands, banquet tables, and the many bronze vessels found in the burial seem to be evidence of a funerary banquet held in honor of the king. The inlaid table and two serving stands from Tumulus MM have been reconstructed for display in the Museum of Anatolian Civilizations, Ankara.

Tumulus P, the tomb of a child, contained at least twenty-two pieces of wooden furniture, including a boxwood serving stand carved in openwork and inlaid in geometric patterns with



Fig. 14. Phrygian inlaid serving stands in situ in Tumulus MM, Gordion, eighth century BCE. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

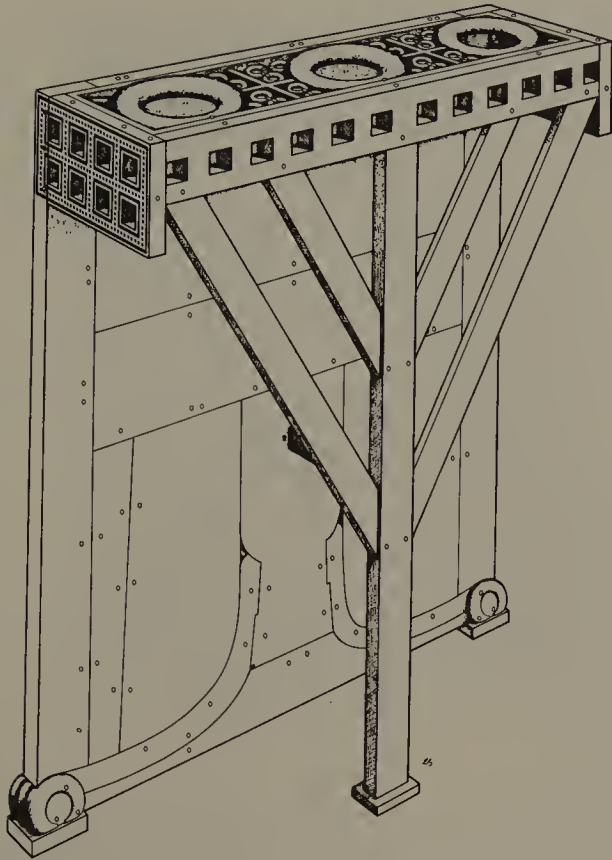


Fig. 15. Reconstruction drawing of the back view of one of the serving stands ("Screen A") from Tumulus MM, Gordion. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

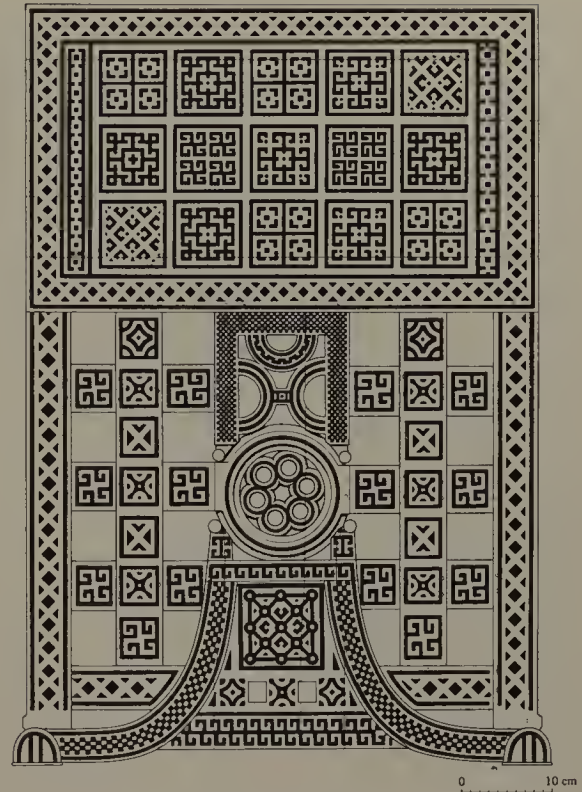


Fig. 16. Reconstruction drawing of the face of a Phrygian inlaid serving stand, Tumulus P, Gordion, eighth century BCE. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

juniper and yew (fig. 16). As on the Tumulus MM stands, the face of the Tumulus P stand featured a rosette supported by lion's legs. The top shelf incorporated two open rings to hold bronze cauldrons, supported from below by a curved back leg that ended in a stylized lion's-paw foot. Near the stand was found an inlaid stool that had been made from alternating strips of yew and boxwood, inlaid in contrasting woods (fig. 17). The front and back faces were identical in form, although the front face was more intricately inlaid and was decorated with bronze studs. The design of this stool is unprecedented, each face being a two-dimensional representation of a three-legged table like the inlaid table from Tumulus MM (fig. 13).

The finds from Tumulus P included several tables, one of boxwood inlaid with blocks of yew and another of boxwood with a large tray top and fancifully carved legs. A small chair, several stools, and two footstools had been placed in the

tomb as well, and the child had been buried on a carved, inlaid bed. Tumulus W had contained a serving stand made of boxwood, the face of which was carved in openwork geometric patterns and decorated with bronze studs. The form

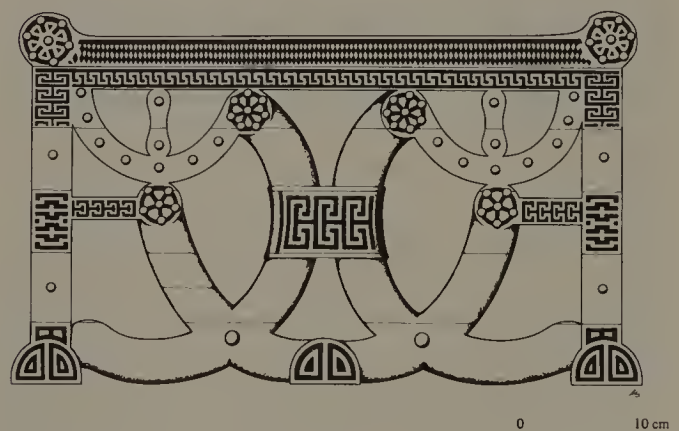


Fig. 17. Reconstruction drawing of the front face of a Phrygian inlaid stool, Tumulus P, Gordion, eighth century BCE. MUSEUM OF ANATOLIAN CIVILIZATIONS, ANKARA

of the stand has been difficult to ascertain because of the fragmentary condition of the piece.

A wood-species analysis of the Gordion furniture has indicated that boxwood, juniper, yew, walnut, maple, poplar, oak, cedar, and pine were among the woods used by Phrygian cabinetmakers. Advanced joinery methods and inlay techniques were known, and the surfaces of all the pieces were finely finished. The design of the furniture from Gordion is unique, both in its form and in its decoration. The lion's legs and carved struts find counterparts in the furniture of other near eastern centers, but even these elements are stylized in the Phrygian manner almost beyond recognition. Religious symbols incorporated prominently into the designs attest to the importance of these pieces and the seriousness with which the woodworker's craft was regarded. The luck of preservation, careful excavation of the site, and a long-term effort to conserve and study the Gordion wood have contributed to the recovery of this collection, adding immeasurably to our knowledge of ancient furniture.

The Assyrian Legacy: Urartian Furniture

Furniture was highly regarded in Urartu, as elsewhere in the Near East, and special pieces were kept in temples, as is clear from the inventory of valuable furniture taken by Sargon II in his sack of the Temple of Khaldi in the Urartian city of Musasir (714 BCE). Although the style of these pieces cannot be inferred from Sargon's account, furniture attachments found at Urartian sites indicate what this furniture must have looked like. Urartian furniture seems to have resembled the court furniture of Assyria in many of its details; the finely made pieces do not appear derivative, however, exhibiting a stylistic integrity of their own.

While many Urartian sites have been shamelessly plundered, yielding fine bronze furniture fittings without a context, scientific excavations at the sites of Adilcevaz and Altintepe have unearthed the remains of several pieces of furniture found in situ. Chamber Tomb I, Slope H, at Adilcevaz contained the remains of three wooden tables. In two cases, only the legs were found; these ended in bull's hooves, and on one of the tables the hooves stood on molded bases

with leaf capitals. The third table was preserved in its entirety. It had a round wood top with three legs ending in schematized animal feet; the legs had top tenons that fitted into collars extending down from the underside of the table-top, much like the construction seen at Jericho (fig. 9, no. 2) and at Gordion.

One of the three stone subterranean tombs at Altintepe was discovered with its contents intact. Tomb 3 contained the burials of a man and a woman, dated to the late eighth or seventh century BCE. Many fine offerings had been placed in the tomb, including two stools with silver-plated wooden legs, a wooden couch with bronze fittings, and at least four wooden tables. Although the wood had deteriorated, the form of several pieces could be ascertained from the metal fittings. The silver-plated stools and at least one of the tables had legs that ended in molded bases with leaf capitals, and the stools had stretchers decorated with bronze volutes, recalling the details on Assurnasirpal's throne. Bronze bull's and lion's legs were recovered from tombs 1 and 3, and carved ivory furniture attachments were found in the temple at Altintepe.

The most famous but least understood piece of Urartian furniture is the so-called throne from Toprakkale (Rusakhinili), unearthed piece by piece in the late nineteenth century in illicit digging and in brief excavations subsequently carried out by the British Museum. The remains came from the area of the Temple of Khaldi, as indicated by the inscribed shields with which they were associated; the dedicatory inscriptions on the shields have been dated to the seventh and possibly the eighth centuries BCE. Some of the bronze fittings for the "throne," now thought to belong to more than one piece of furniture, were acquired by the British Museum, through purchase and excavation, with the remainder dispersed to collections in Paris, Berlin, Brussels, St. Petersburg, and New York.

The bronze attachments include small figures of recumbent winged bulls, standing winged griffins and winged sphinxes (fig. 18), deities standing on the backs of animals, recumbent lions with and without wings, and a royal attendant. The faces of most of the figures were inlaid in stone, and much of the bronze shows evidence of gilding. Bronze furniture legs, corner brack-



Fig. 18. Urartian bronze furniture attachment in the form of a sphinx, from Toprakkale, circa seventh century BCE. HERMITAGE MUSEUM, ST. PETERSBURG

ets, and part of a chair arm also belong to the group, as well as many finely carved ivory figures. The furniture legs are of two types, one with moldings and bands of hanging leaves, and a second in the form of lion's legs with flat front faces; both of these leg types find counterparts in Assyrian furniture. The small bronze figures recall the supporting genii on Assyrian thrones, such as the magnificent throne on which Sennacherib sits to view the booty from Lachish.

A satisfactory reconstruction of the Toprakkale furniture fittings has never been made. The idea that they came from a throne originated in the late nineteenth century, and a letter written in 1884 documenting the find describes the throne as monumental, covered with cuneiform inscriptions and gilding, and decorated with a great number of figures. A reconstruction of this fabulous throne may now be impossible because, as the letter states, the local inhabitants shattered many of the figures from the original find, employing the bronze to make shovels, plowshares, and other more useful objects.

The Assyrian Legacy: The Furniture of Babylon and Persia

Few works of Babylonian art have survived from the first millennium BCE, and consequently representations of furniture are scarce. Two pieces are depicted on a stone tablet of the ninth-century Babylonian king Nabu-apla-iddina, which shows the sun-god Shamash seated in his shrine on a magnificent backless throne, the seat supported by vertical legs and two bull-men. The god's emblem, a large sun-disk, is displayed in front of the shrine on a table with tapered legs and molded feet. Evidence for an actual piece of furniture was found at Babylon by Robert Koldewey, who discovered the imprint of an ornate wooden throne imbedded in the top of a statue base in one of the chambers of Esagila, the temple of Marduk. The legs of the throne were supported by figures holding flowing vases, and other figures had been used as supports and decoration. These Babylonian thrones incorporating small figures recall Assyrian thrones, and the connection between the furniture of the two kingdoms is further strengthened by literary evidence.

As recorded in an inventory text, the throne and bed of Marduk and Zarpanit were carried off from Babylon to Assyria by Sennacherib and dedicated to the god Assur. The throne and bed were subsequently rededicated to the original Babylonian gods by Assurbanipal, as is known from a later version of the text. Although the text is fragmentary and the translation problematic, it is clear that the furniture had moldings of gold and was decorated with carnelian and lapis lazuli. At the head of the bed was a dragon; and the legs of both pieces incorporated female genii in conjunction with animal feet and/or cone-shaped elements. Some of the female figures apparently held flowing vases.

Assyrian records contain many more references to Babylonian furniture, which was highly esteemed and coveted by Assyrian monarchs. When Sennacherib looted the contents of the palace of Marduk-apla-iddina II, he not only made off with gold, silver, the king's wife, harem, and entire court, but also beds, chairs, and sedan chairs, as well as all of the artisans of the palace. The capture of the palace artisans suggests that Babylonian-style furniture was

made and used in Assyria, and one wonders whether the furniture of these two nations differed markedly and in which respects.

Babylonian furniture was still worth noting in the fifth century BCE. The Greek historian Herodotus described the contents of the lower shrine at Babylon, apparently Esagila, in which a gold image of Zeus (Marduk) was set up, seated upon a gold throne and with a gold table nearby (1.183). In the shrine on top of the ziggurat, no image was present, but only a great, richly covered couch and a gold table; the Babylonians said, but Herodotus did not believe them, that the god visited the shrine and rested on the couch (1.181–182).

The Achaemenid Persians emulated the furniture of the Assyrians and the Babylonians, developing a style in conscious imitation of their predecessors and using it for their own political ends in the propagandistic depictions of monumental furniture on the reliefs of Persepolis. (Refer to “Art and Archaeology of the Achaemenid Empire” in Part 10, Vol. IV, for examples of works discussed here.) Huge stools serve as platforms on which the Persian monarchs sit enthroned, protected by embroidered baldachins that rise on posts from the edges of the seats. The beautifully carved legs of these stools end in lion’s-paw feet with flat front faces, supported on bases with moldings and hanging leaf capitals, recalling the same combination on Assyrian furniture. The upper parts of the legs have turned moldings, however, which were not a regular Assyrian feature; also non-Assyrian are the lion’s-paw feet on Persian stools and thrones (these were limited to tables and footstools in Assyria). The small figures that had supported the seats and armrests of Assyrian thrones appear on the monumental Persian stools as figures of subject peoples of the realm. The same kind of stool appears on the facade reliefs of the royal tombs at Naqsh-e Rostam.

Depictions of the actual thrones of the Persian rulers show the same elegant style of furniture, without the supporting figures (fig. 19). The stretchers that connect the legs appear to be turned, and the backs and seats are opulently upholstered. Persian royal furniture was made of precious materials and was undoubtedly among the most lavish of all ancient furniture; the Persian taste for luxury amazed the Greeks, as indi-

cated in Herodotus’ well-known account of the gold and silver couches, tables, and other magnificent banquet furnishings found in the abandoned tents of the Persians after the battle of Plataea in 479 BCE (9.80–82).

The Frozen Tombs of Pazyryk, Siberia

One of the greatest of all archaeological discoveries was the group of tombs found in the Pazyryk Valley of the Altai Mountains, the contents of the chambers frozen soon after the time of burial. Barrow 1 was excavated in 1929, followed by the excavation of barrows 2–8 in 1947–1949 by the Soviet Academy of Sciences and the Hermitage Museum. The grave goods, including leather, fur, clothing of all types, rugs, tapestries, wooden objects and furniture, and fully outfitted horses, were almost perfectly preserved and are now in the Hermitage Museum (a carpet from the Pazyryk Valley is illustrated in “Textile Arts in Ancient Western Asia” earlier in this volume). Imported objects and motifs tie the Altai burials to the neighboring civilizations of Persia and China; most of the finds, however, exhibit a strong, indigenous style related to the “animal style” associated with Scythian and other nomadic tribes that lived north and east of the Black Sea. The furniture found in the Pazyryk tombs constitutes one of the most important collections of well-preserved ancient wooden furniture; although found far to the east, it demonstrates continuity in ancient near eastern woodworking traditions.

The rich burials of barrows 1–5, now dated to the late fourth–third centuries BCE, contained the remains of at least twelve small wooden tables and five solid wooden objects identified as pillows or stools. Each table had four legs and a tray-shaped top. In most cases, the legs were secured to the tabletops by means of the collar-and-tenon joinery used at Jericho (fig. 9, no. 2), Gordion, and Adilcevaz in Urartu. The legs were not pinned in the collars and seem to have been detachable for easy transport. This suggests that the collar-and-tenon system may have been developed originally for nomads’ tables, although paradoxically the only such examples that have survived, the Pazyryk tables, are the latest in the series.

The legs of the tables were either carved in



Fig. 19. Relief showing an enthroned king identified as Darius, from the Treasury, Persepolis, circa late sixth to early fifth centuries BCE. ARCHAEOLOGICAL MUSEUM, TEHRAN

fine decorative moldings or were plain, with the exception of two tables that had legs in the form of standing tigers (fig. 20), a variation on the ancient near eastern lion's leg. Four of the tables, including the two with tiger legs, had tops colored red with cinnabar, and two more tables were entirely colored bright red, an ancient tradition perhaps reflected in the red painted furniture of Central Asian Turkoman tribes still made today.

THE IMPORTANCE OF ANCIENT NEAR EASTERN FURNITURE

A history of furniture in the ancient Near East is dependent on depictions of furniture in other media, references in ancient texts, and the rare surviving examples of actual furniture, these sources providing evidence only for furniture



Fig. 20. Wood table from Barrow 2, Pazyryk, Siberia, dating to the fourth century BCE and now in the Hermitage Museum, St. Petersburg. SERGEI RUDENKO, *FROZEN TOMBS OF SIBERIA: THE BURIALS OF IRON-AGE HORSEMEN* (1970)

used by the wealthy and powerful: heads of state, the nobility, priests, and even deities. The furniture of ordinary households must have been much simpler and perhaps even scarce. Those who could not afford such costly items or were not accustomed to their use would have done without them, sleeping and sitting on the floor, on platforms or on benches, making use of mats, mattresses, rugs, and cushions, as in the Neolithic settlement of Çatal Hüyük and much of the Near and Middle East today. Evidence for the history of furniture in the ancient Near East is thus selective, and it is this selective evidence that serves to underline the value and importance of the fine furniture made and used by the ancient peoples of western Asia.

Ancient texts refer to thrones, footstools, tables, and beds belonging to gods, covered with precious metals and inlaid with gems; and furniture was regularly kept in temples. Heads of state possessed royal thrones from which they officiated and pronounced judgment, the thrones themselves symbolizing the monarchs' power. These royal thrones could be set up in temples and sanctuaries, as was the throne of King Midas, which was sent as a dedication to Delphi. Conquered peoples suffered the loss of their furniture from temples and palaces, and the furniture of deities could be appropriated by the conquerors, in some cases usurped as dedications for their own gods. Gifts of valuable furniture were exchanged by monarchs and received as tribute; and rulers amassed huge collections of furniture, seemingly more than they could ever use, which were then laid away in palace storerooms. Finally, royalty and members of the nobility went to their graves accompanied by suites of fine furniture, evidenced by the rare and precious finds recovered from excavated tombs.

The esteem in which furniture was held in the ancient Near East would thus seem greater than we in the twentieth century might be able to imagine, with our modern concepts of fine and decorative arts, with furniture consigned to the latter. From the ancient perspective, as the evidence overwhelmingly indicates, fine furniture was among the most valuable of possessions, the prerogative of wealth and status, an attribute of royalty and divinity and, as such, one of the most important classes of objects from the ancient near eastern world.

BIBLIOGRAPHY

General Works

HOLLIS S. BAKER, *Furniture in the Ancient World: Origins and Evolution, 3100–475 B.C.* (1966); RICHARD D. BARNETT, *Ancient Ivories in the Middle East* (1982); JEAN-MARIE DENTZER, *Le Motif du banquet couché dans le Proche-Orient et le monde grec du VII^e au IV^e siècle avant J.-C.* (1982); ERIC GUBEL, *Phoenician Furniture: A Typology Based on Iron Age Representations with Reference to the Iconographical Context* (1987); GEORGINA HERRMANN, ed., *The Furniture of Western Asia* (1995); HELMUT KYRIELEIS, *Throne und Klinen: Studien zur Formgeschichte altorientalischer und griechischer Sitz- und Liegemöbel vorhellenistischer Zeit* (1969); CHRISTIANE DECAMPS DE MERTZENFELD, *Inventaire commenté des ivoires phéniciens et apparentés découverts dans le Proche-Orient* (1954); J. N. POSTGATE and M. A. POWELL, eds., *Trees and Timber in Mesopotamia, Bulletin on Sumerian Agriculture* 6 (1992).

Ancient Texts on Furniture

GUILLAUME BARDET ET AL., *Archives royales de Mari*, vol. 23, *Archives administratives de Mari I* (1984); DANIEL DAVID LUCKENBILL, *Ancient Records of Assyria and Babylonia*, 2 vols. (1926–1927); WILLIAM L. MORAN, *The Amarna Letters* (1992); ARMAS SALONEN, *Die Möbel des alten Mesopotamien nach sumerisch-akkadischen Quellen* (1963).

Archaeological Finds: Neolithic Through the Third Millennium BCE

PAOLO MATTHIAE, *Ebla: An Empire Rediscovered* (1977); JAMES MELLAART, *Çatal Hüyük: A Neolithic Town in Anatolia* (1967); TAHSIN ÖZGÜÇ and MAHMUT AKOK, *Horoztepe: An Early Bronze Age Settlement and Cemetery* (1958); CHARLES LEONARD WOOLLEY, *Ur Excavations*, vol. 2, *The Royal Cemetery* (1934).

Archaeological Finds and Collections: Second Millennium BCE

ANNIE CAUBET and FRANÇOIS POPLIN, "Les Objets de matière dure animale: Étude de matériaux," in *Le Centre de la ville, Ras-Shamra-Ougarit III* (1987); PRUDENCE O. HARPER, "Dating a Group of Ivories from Anatolia," *Connoisseur* (November 1969); KATHLEEN KENYON, *Excavations at Jericho*, vol. 1, *The Tombs Excavated in 1952–1954* (1960), and vol. 2, *The Tombs Excavated in 1955–1958* (1965); GORDON LOUD, *The Megiddo Ivories* (1939); T. E. POTTS, "A Bronze Age Ivory-decorated Box from Pella (Pahel) and Its Foreign Relations," in *Studies in the History and Archaeology of Jordan*, vol. 3, edited by A. HADIDI (1987);

C. F. A. SCHAEFFER, "Les Fouilles de Ras Shamra-Ugarit," *Syria* 31 (1954).

Archaeological Finds and Collections:

First Millennium BCE

RICHARD D. BARNETT, *A Catalogue of the Nimrud Ivories: With Other Examples of Ancient Near Eastern Ivories in the British Museum* (1957; 2nd ed. 1975), "The Excavations of the British Museum at Toprak Kale near Van," *Iraq* 12 (1950), and "The Excavations of the British Museum at Toprak Kale, Near Van—Addenda," *Iraq* 16 (1954); JOHN W. CROWFOOT and GRACE M. CROWFOOT, *Early Ivories from Samaria* (1938); GEORGINA HERRMANN, *Ivories from Nimrud* (1949–1963), fasc. 4, *Ivories from Room SW37 Fort Shalmaneser* (1986); VASSOS KARAGEORGHIS, *Excavations in the Necropolis of Salamis*, vol. 3 (1973); MAX MALLOWAN and GEORGINA HERRMANN, *Ivories from Nimrud* (1949–1963), fasc. 3, *Furniture from SW7 Fort Shalmaneser* (1974); RIVKA MERHAV, "Secular and Cultic Furniture," in *Urartu: A Metalworking Center in the First Millennium B.C.* edited by RIVKA MERHAV ET AL., (1991); OSCAR WHITE MUSCARELLA, *The Catalogue of*

Ivories from Hasanlu, Iran (1980); TAHSIN ÖZGÜÇ, *Altintepe*, vol. 2, *Tombs, Storehouse, and Ivories* (1969); SERGEI I. RUDENKO, *Frozen Tombs of Siberia: The Pazyryk Burials of Iron-Age Horsemen*, translated by N. W. THOMPSON (1970); ELIZABETH SIMPSON, "The Phrygian Artistic Intellect," *Source* 7, nos. 3/4 (1988), and "Phrygian Furniture from Gordion," in *The Furniture of Western Asia* (1995); ELIZABETH SIMPSON, KRYSIA SPIRYDOWICZ, and VALERIE DORGE, *Gordion Wooden Furniture* (1992); *Source* 10, no. 4 (1991), a special issue on the dating of Pazyryk; FRANÇOIS THUREAU-DANGIN, A. BARROIS, G. DOSSIN, and MAURICE M. DUNAND, *Arslan Tash* (1931); FELIX VON LUSCHAN and WALTER ANDRAE, *Die Kleinfunde von Sendschirli*, vol. 5, *Ausgrabungen in Sendschirli* (1943); IRENE WINTER, "Carved Ivory Furniture Panels from Nimrud: A Coherent Subgroup of the North Syrian Style," *Metropolitan Museum Journal* 11 (1976), "Phoenician and North Syrian Ivory Carving in Historical Context: Questions of Style and Distribution," *Iraq* 38 (1976), and "Is There a South Syrian Style of Ivory Carving in the Early First Millennium B.C.?" *Iraq* 43 (1981); and RODNEY S. YOUNG, *Three Great Early Tumuli: The Gordion Excavations Final Reports*, vol. 1 (1981).

SEE ALSO **Private Life in Ancient Mesopotamia** (Part 4, Vol. I); **Material, Technology, and Techniques in Artistic Production** (Part 7, Vol. III); and **Furniture in Ancient Egypt** (Part 7, Vol. III).

Jewelry and Personal Arts in Anatolia

JEANNY VORYS CANBY

OUR KNOWLEDGE of minor arts in Anatolia is dependent on the material discovered by archaeologists and, unfortunately, on objects illicitly taken from their ancient surroundings and sold on the art market. It comes from graves of both the common folk and royalty, from hoards whose location had been forgotten and, more rarely in Anatolia, from houses or public buildings left in a hurry for some reason, with their contents intact. Aside from the objects, there are some few contemporary illustrations that show objects in use. We do not have all these sources from each of the major periods, and it is important to keep in mind that our information is uneven and our picture of ancient crafts therefore somewhat distorted.

We are fortunate in having a wealth of figurines and handsome pottery from abandoned houses and shrines in villages dating back to the tenth millennium BCE. Wall paintings of the earliest periods appear to reproduce rugs or hangings with intricate patterns. For the third millennium BCE, we have no illustrations of people, but rich tombs at Alaca Hüyük (pronounced Alaja Huyuk) in central Anatolia and caches at Troy on the west coast produced gold jewelry that was extremely simple in technique and subject matter. Sophisticated vessels, weapons, and items for the cult were manufactured from other metals. Anatolia is rich in metals, so that it is not surprising to find advanced metallurgy in early

periods. For the early second millennium, some sites have been found where ordinary houses and palaces have some of their contents intact. Ivory was imported from Egypt, and the influence of Egyptian art and iconography on local crafts is evidenced in Anatolian versions of figures such as human-headed animals and sphinxes. There were also colonies from Assyria trading fine Mesopotamian textiles for metals. These textiles have not survived, and we see little influence from Mesopotamian crafts, except in specialized classes of seals.

So far, no hoards or rich graves dating to the second millennium have been found in excavations, but objects from the art market show that during the period when the Hittites ruled the area (circa 1700–1200 BCE), figurines, cult vessels, and elaborate representational jewelry once existed. We would never have suspected this from the rock reliefs of the time, which show royalty and deities wearing little more than a large disk earring or a simple bracelet.

For the Iron Age, when the Phrygians held sway in central Anatolia, tombs—some of them very rich—are again our chief source of minor arts. The new craft of painting lively figures and designs on pottery developed then. Imports from the west as well as the east were numerous in this international age, but the tenacious local traditions of artisans remained intact.

Minor arts in Anatolia can be clearly distin-

guished from those of other areas by the type of object, style, and iconography. Perhaps the most distinctive characteristic is the use of clay vessels as an artistic medium. Pots in human or animal shape, some with hidden channels that allow liquids to pour forth from unexpected places, probably had a ceremonial use. Long narrative reliefs were modeled on the surface of vessels. The ordinary pottery shapes, the carinated bodies, and the many handles and exaggerated beaked spouts are distinctive. Finally, for more than eight thousand years ancient Anatolia produced a series of small figurines in clay and precious materials that have a vitality that distinguishes them from contemporary examples elsewhere.

THE NEOLITHIC PERIOD

Beads and pendants of malachite and lumpy clay figurines already occur in the tenth and ninth millennia at pre-ceramic—that is, before the invention of pottery—sites with unexpectedly sophisticated architecture, such as Çayönü (pronounced Chayonu) in the east. In the seventh and sixth millennia, there are the spectacular series of objects from pre-ceramic Çatal Hüyük (pronounced Chatal Huyuk) in south-central Anatolia. Blue, duck-shaped beads were found, as was an obsidian mirror, which suggests that people were concerned about their appearance. A flint knife with a handle in the shape of a writhing serpent marks the beginning of a long tradition of ceremonial weapons.

Figurines

The clay figurines of obese women are exceptional examples of a familiar Neolithic type. One of these, with flaps of flesh outlining her navel and knees, sits on a bench between two felines, giving birth to a child. Another has animals at her shoulders. The sensitive modeling of these figures suggests the soft, warm flesh as few others of the type do. Along with these are some unique small stone pieces that show several figures together. One rather crude piece shows the torsos and heads of two women emerging from a single body with a single pair of arms. Another

schematic but clearly carved piece shows two figures tightly embraced beside another figure who holds up a child. Two other coarsely carved pieces show a figure standing beside a leopard holding the animal close. Another of this type shows a figure seated on a leopard. We know from wall paintings and reliefs that these unusual figurines probably refer to a local cult in which leopards played a large role.

The late-sixth-millennium site Hacilar (pronounced Hajilar), farther to the west on the Anatolian Plateau, continues the tradition of elegant figurines representing very plump females, some holding felines to their breasts. Most of these are standing, but one, as at Çatal Hüyük, is seated on a leopard throne. There are also remarkably sophisticated twisted, reclining versions of the same type, one holding a small child and one with what appears to be a small lover.

Pottery

Pottery is now present and the long tradition of sculptured vases begins. An open pot turned upside down has nose and chin modeled in relief and a large pear-shaped eye indicated by incision, thus making a human head out of the cover. Another vessel is shaped as a reclining deer. Painted pottery, for one of the few times in Anatolia, becomes art when an endless variety of complex, abstract patterns in positive paint or reserved space cover the sides of wide jars or bowls. The thin-walled buff pottery is decorated in brown-red paint and is highly burnished. Later Neolithic sites, such as Kosk Hüyük to the east, continue to yield figurines of the type described above, but give evidence that painting was abandoned in favor of relief designs on pottery. The relief figures have the same characteristics as the Hacilar “goddesses”; some figures are shown in action, with one climbing a ladder. Animals and serpentine forms are also applied in relief.

THE THIRD MILLENNIUM

Pottery

Later, during the Bronze Age, Troy on the west coast also had a tradition of pots with human

features modeled in relief. There are also a few “trick” vases from Troy. In one example, a liquid is poured into a pot on a woman’s head but fills a pot held on her chest (fig. 1). There are other sporadic examples of trick vases on the plateau, and simple face pots are found in the Keban Dam region in far eastern Anatolia at this time, a site that produced objects linked to the Caucasus.

Precious Objects

Excavation in Bronze Age levels at Troy produced several hoards of objects in precious materials. There were vessels of gold and silver in shapes known from pottery imitations. A tall tankard with two high-slung handles and a sauce boat with a pouring lip at either end are characteristic. There was much very simple jewelry. The most famous and most characteristic pieces are the headbands and dangling earrings made famous when worn by Sophie Schliemann, the excavator’s wife, in a widely published photograph. They were made of leaves cut out of gold foil and strung together in long chains that hung from wide, basket-shaped earrings covered with appliqué circles or strands. Some of the foil is



Fig. 1. Trick vessel from Level 4 at Troy, late third millennium, now in the Istanbul Archaeological Museum. Vessels such as this one are so named because liquid poured out from an unexpected place. ARNALDO MONDADOR, ED., *ANATOLIA: IMMAGINI DI CIVILTÀ* (1987).

cut into simple idol shapes with incisions suggesting eyes. There are gold armbands, rings, and earrings with running spirals and open-work strips of gold wire attached. Some hollow boat-shaped gold earrings are decorated with gold granulation. The only representational elements in the jewelry are pots or birds at the top of double-spiral pins. A rock-crystal lion head was also found at Troy. (See “Troy: Legend and Reality” in Part 5, Vol. II.)

Several ancient molds for casting such jewelry are known. Negatives for various pendants, pins, earrings, and flat figurines of nude women were carved into a single stone. A frugal use of stone was, presumably, to lighten the smith’s baggage. Because the crowded molds were used to produce objects popular in Mesopotamia as well as in the Trojan region of western Anatolia, it is possible to suppose the existence of itinerant bands of smiths. A few pieces cast in such molds have been found—one in Troy. They are all made of lead, the cheap metal, and were probably used to pay for supplies on the smiths’ journeys.

Royal Tombs

In central Anatolia at approximately the same time the Trojan hoards were concealed, leaders were buried in great splendor at Alaca Hüyük. Among the grave gifts were vessels of gold and silver made, as at Troy, in shapes familiar from pottery. There were simple open bowls, long-stemmed goblets, and pitchers. The walls of these vessels were covered with simple geometric designs in relief. One silver pitcher was decorated with swirling spirals typical of the later Colony period stamp seals. (The Colony period is the era in the beginning of the second millennium when metal-seeking merchants from Assyria [northern Iraq] settled around towns in central Anatolia.) A “teapot” had wriggling snakes on its side. Much of the simple jewelry was made of sheet gold. There are pins, pendants, combs, and diadems. Large brooches in a figure-eight shape with a pin running through them are characteristic. There are a few more-complex pieces of hollow gold jewelry: a hair ring, ear studs, and a bracelet with the surface cut to resemble granulation.

Figurines

In the tombs several kinds of bronze female figurines were found. A flat type has a half-round head and pronounced elbows, hips, and legs. One silver example has disk earrings, breasts, and boots made of gold. This is the earliest illustration of typical Anatolian footwear. Pairs of similar figures were cut out of sheet gold. Pottery versions of the same schematized figure have been found in other Early Bronze Age sites in Anatolia.

In the tombs at Alaca Hüyük, a more naturalistic, if still flat, pair of females with enormous incised pubic triangles had been placed in a grave on either side of a female child seated on a high pediment. The infant, with large head and wide eyes cut out for inlay, a plump stomach, and short, fat legs, was naturalistically modeled, in stark contrast to her attendants and other figures from the site. The statue of the child being honored may have been an import. The grouping of such figures, like the Çatal Hüyük pieces that show several figures together, help us understand the relationship between the figures and begin to suggest the purpose they served. At contemporary Horoztepe a bronze figure of a seated woman clutching a sprawling infant to her breast was found. While the child and the body of the woman are reasonably natural, the woman's half-round head above a long, thick neck has unnaturally large ears and eye sockets presumably cut out for inlay. A flat figurine found at Hasanoğlu (pronounced Hasanolan) was made of electrum with gold strips over the nude body. The piece shares features of the several types found at Alaca Hüyük.

A little later at ancient Kanesh (Nesha, modern Kültepe), an unusual flat type of figurine was popular for a short time. It was made of white stone decorated with concentric circles and crossed bands. From the circular body, one to three triangular heads on very long necks appear. One example with a pubic triangle incised on it has two tiny versions of the same idols carved on the body. A few plump figurines made of the same stone and with the same triangular heads represent women seated holding their breasts. Although clearly related, none of these figurines repeats another, as many of the figurines from north Syria or Mesopotamia do. As far as we can tell now, style and iconography

had not yet been canonized in third-millennium Anatolia.

Ritual Objects

An extraordinary group of bronze standards from the tombs at Alaca Hüyük may be classified as minor arts, but their significance in ancient times could hardly have been minor. There are two types. In the first, bulls with long arching horns or stags with enormous antlers were mounted on top of a staff. The degree to which the figures are stylized differs from piece to piece, but the stylistic principles are the same. Some of the pieces have spots over the body, stripes on the haunches, or triangles over the brow indicated by silver inlay. Some have the head or, at sites outside Alaca Hüyük, half of the body covered with precious metals. The second type of standard consists of flat triangles, circles, or semicircles enclosing either strips of bronze arranged in various geometric patterns or animals or both. Birds, horns, or decorative elements may be attached to the edges of the pieces (fig. 2). Smaller grilled disks sometimes dangled from them. One semicircle made of a wide strip of twisted bronze encloses a stag, another a stag and two bulls.

The most puzzling standard has a stag between felines that are walking in the opposite direction. Much has been written about the use of these standards, but we still do not quite understand them. At Horoztepe objects in the same style were clearly rattles.

Ceremonial weapons, some elaborate, continue to be popular. A wooden mace-head covered with gold and a bronze ax with a gold shaft were found. A miniature double ax of silver comes from Karataş (pronounced Karataş) in the south. İkiztepe on the Black Sea produced a series of bronze lance heads with nude females in relief on the surface of the blade.

THE SECOND MILLENNIUM

By the second millennium, Anatolia had firmly entered the international political and economic world of the ancient Near East, one that is fairly well documented by written records. The bulk of archaeological material from the beginning of

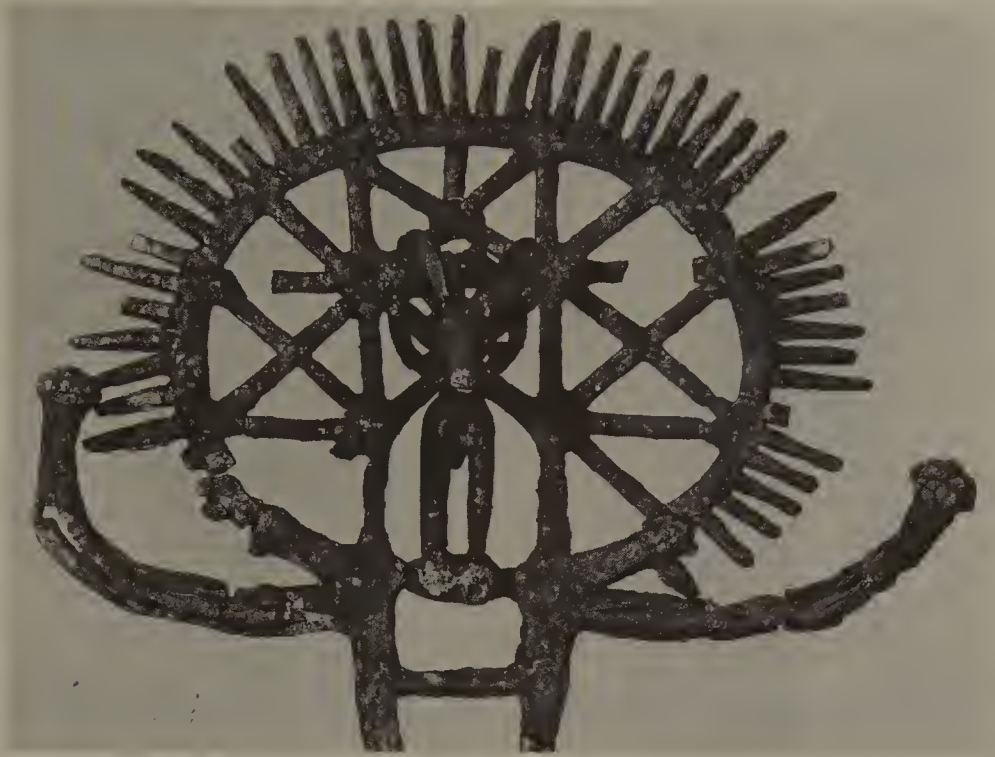


Fig. 2. Bronze standard from Alaca Hüyük, third millennium, now in the Museum of Anatolian Civilizations, Ankara. EKREM AKURGAL, *THE ART OF THE HITTITES* (1962)

the millennium comes from merchant colonies sent out from Assyria. Three sites on the plateau with such settlements have been excavated: ancient Kanesh; ancient Khattusha (modern Boğazköy) later to become the capital of the Hittite Empire; and Alishar Hüyük (pronounced Alishar Huyuk).

Pottery

Most of the objects from these colonies of foreigners are of local manufacture. The Anatolian tendency to see pottery as an art form is richly represented by anthropomorphic and zoomorphic vessels in well-polished monochrome wares. Lions are favorite subjects. Many are stylized, but some are very realistically rendered. There is a series of paired cups in the shape of heads of animals—bulls, cats, pigs, rabbits, and birds of prey. There are also cups in the shape of Anatolian boots. Other vessels show activities: on one, a man paddles a rectangular boat with a bull's-head prow; on another, a man climbs over the vessel's side. A driver shouting to his horses becomes the handle of a double teapot.

Trick ritual vessels channel liquids to animal-headed spouts on the interior or exterior. Handles become snake or lion heads biting the rims of vessels. Liquids were poured through animal jaws at the end of teapot spouts. The vessels themselves can look like abstract sculpture with their numerous high-swung handles, sharply carinated bodies, and elegant beaked spouts (see fig. 3).

Relief Decoration

Relief decoration continues to be popular, and at the end of the Colony period long panels of descriptive relief were made. The scenes are welcome, since monumental sculpture is lacking in this period. One fragment from Bitik shows a couple seated in a small room of a brick building; the man gently lifts the veil of the woman as he offers her a drink. In the scene below it, men bring food for a feast. A completely preserved vessel from İnandik illustrates an ancient ceremony in great detail (see figs. 1 and 2 in "Legal and Social Institutions of Hittite Anatolia" in Part 4, Vol. I). It was accompanied by music of several lyres, cymbals, and a banjo-like



Fig. 3. Pitcher from Kültepe, circa 1950–1850 BCE, now in the Museum of Anatolian Civilizations, Ankara. EKREM AKURGAL, *THE ART OF THE HITTITES* (1962)

instrument. There were also acrobatic feats. The preparation of food—from the slaughter of a bull to mixing the wine, to what looks like someone doing dishes—is shown. The ceremony seems to have led to the consummation of a sacred marriage. In light of the numerous, apparently ceremonial, tools and weapons made of, or decorated with, precious materials, it is interesting to notice that two men in the procession are waving cultic butchering knives. Two silver vessels illegally excavated, one in the shape of the forequarters of a stag (now in the Metropolitan Museum of Art, New York) and the other in the shape of a gloved hand (now in the Museum of Fine Arts, Boston), also have ceremonies depicted in bands of relief. (See “Music, Dance, and Processions in Hittite Anatolia” in Part 10, Vol. IV.)

Ivory Carving

Ivory was used as a carving medium in this period. A figurine from ancient Kanesh continues the tradition of the third millennium in showing a half-seated plump woman. She now wears the typical Hittite hat (one rising from the hairline to a wide circular frame from ear to ear; the back

is flat as well) on the back of her head and is carved in a strong style that concentrates on large, clear, uncluttered forms, a style that presages that of Hittite sculpture. A spectacular group of ivory furniture fittings and figurines in this style comes from the rich site of Acemhöyük (pronounced Ajemhuyuk) on the plateau. Although no Assyrian tablets have yet been found there, the presence of Mesopotamian and Syrian sealings suggests the city was involved in the international trade of the Colony period. The ivories include seated sphinxes with long Hathor curls ultimately inspired by Egyptian iconography. A similarly egyptianized kneeling figure was found at Alaca Höyük. An ivory box from Acemhöyük has scenes of processions, the hunt, animal combats, and mixed creatures in narrow bands of very small relief reminiscent of scenes on contemporary Syrian seals. Influences from the outside world are to be expected in this international age. It is, in fact, more striking that so few traces remain of the intensive contact. One exception may be the flat lead figurines and the molds to make them. These differ in style from native Anatolian crafts, and they are found only in sites where there is evidence of trade with Assyria. They may have belonged to the foreign merchants.

Glyptic

The history of seal carving in Anatolia illustrates the intertwining of several traditions. For some reason, throughout its history Anatolia preferred stamp seals to the cylindrical device developed in Mesopotamia designed to make continuous sealings. The Assyrian colonists and Syrian merchants naturally brought their own cylinder seals with them, and for a short period Anatolian seal cutters experimented with the type. This produced a group of Anatolian seals of great charm and interest. Strangely enough, in an era when heavily modeled forms were popular in Anatolia, the local seals were carved in a very linear style. Many of the motifs—such as processions of gods or men toward a seated divinity; individual figures such as the very ancient Mesopotamian two-faced vizier of the god of sweet water, Enki; and combats between a bull-man and a lion—were borrowed directly from Mesopotamia. But between, around, and under such figures, local gods, religious furnishings, or sym-

bols were introduced. Hunting scenes and animals filled every blank space. The lively, crowded scenes would never be mistaken for proper Mesopotamian or Syrian creations.

In the late Colony period and early Old Hittite period, seal cutting developed in two different directions. There are a few elegant cylinder seals that present the old dignified Mesopotamian procession correctly. However, the deities involved may be local Anatolian, and the modeling of the figures reflects the influence of the lively, plump style of contemporary ceramics and ivories. Behind and under the procession there are energetic but uncluttered scenes of swimmers and sacrifice and representations of the animal-headed cups described above.

On one slightly later seal, the old procession has only Anatolian deities and monsters in it and the deity being honored is a weather-god in his chariot. In a lower register, there is an exciting stag hunt with three chariots. Some of the stags have not yet realized the danger, but others flee, fall wounded, or die under the chariots. The cylinder seal continues in use only sporadically in later Hittite times, mostly in the southeastern province of the empire.

On the Anatolian Plateau, the carvers of the late Colony period returned to stamp seals, decorating them with simple scenes of animal combat, complicated braids and guilloches, swirling animal heads, or spirals in the high relief of the other arts. At Acemhöyük, carvers created complicated scenes on the stamping surface. In one carefully composed scene, a woman in a garment covered with scales sits by a river under a tree in which a bird is perched. She offers a drink to a man who wears a hat and tunic covered with scales. From the same site come vases in familiar Anatolian shapes expertly carved out of hard stone—obsidian or rock crystal—linking that craft tradition to earlier and later times.

THE HITTITE EMPIRE PERIOD

The minor arts of the Hittite Empire period (fifteenth to twelfth centuries) are homogeneous in style and iconography and, for the most part, of fine workmanship. The representational objects appear to be miniature versions of monumental Hittite sculpture and, as such, are extremely im-

portant for the history of art of the period. Many have survived in mint condition and help us comprehend the battered and worn rock sculptures. From what has survived, it would appear that pottery and glyptic fell out of favor as media for artistic expression. The corpus of minor arts now contains mostly costly items made for the rich or for royalty. At the Hittite provincial capital of Carchemish (Karkamish) in the southeast, a series of tiny figures carved from lapis lazuli and surrounded by gold frames were found. They are almost exact copies of the figures in the procession of deities carved on the rock walls of the major Hittite sanctuary at Yazılıkaya, just outside the Hittite capital. A similar lapis lazuli inlay was found in Asshur (modern Qalat Sharqat), the capital of Assyria. In the excavations at Alalakh (modern Tell Atchana), another Syrian city on the other side of the Taurus Mountains, an exquisite lapis lazuli figure of a Hittite goddess, cloak pulled aside to expose the lower part of her voluptuous body, was found. The subject is known only from a provincial rock relief at İmamkulu, where the goddess stands on an eagle with four superimposed sets of wings. She is approached by a weather-god in his bull-drawn chariot, riding on the backs of mountain gods supported by lion-headed men. A prince ends the procession. A figure, made of lead, of a voluptuous woman from Karahöyük, near Konya, is the only other known parallel. If we only had the divinities at Yazılıkaya, which are uniformly depicted in chaste poses, we could not have imagined that such a figure could have existed.

Ivories

A tiny ivory plaque from Alalakh has scenes of sphinxes fighting animals. Ivories constitute one of the few classes of Hittite objects found outside the Hittite Empire. A panel of ivory covered with tiny figures of Hittite deities, plant motifs, and mixed beings in classical Hittite style was found in a hoard at Megiddo in Palestine. An ivory box with lively sphinxes and lions carved in half-round, found in the same hoard, is also probably of Hittite manufacture. In Assyria, excavations at Nuzi (Nuzu, modern Yorghun Tepe) turned up a small ivory figurine representing a Hittite child divinity. The special place of the child in Hittite iconography is known from

sculpture, and children seem to have been a popular subject for the minor arts. There are two rock-crystal figures of infants and an exquisite gold pendant representing a goddess with a precocious infant on her lap (the pendant is illustrated in "Legal and Social Institutions of Hittite Anatolia" in Part 4, Vol. I). Rock crystal was also used for a tiny statuette of a god excavated at Tarsus.

Metal figures of gods and tiny pendants in gold record the gradual development of the classical Hittite style—the change in the concept of the ideal male figure from slender, lithe youths to quiet, stately, and rather plump men. A hoard of bronze figures found together with a ritual vessel and thought to have been mounted on a single pediment was found at Alaca Hüyük. It consisted of two goddesses wearing the very wide-brimmed Hittite hat. One is seated and holds a bowl in her hands. The other stands, hands to her breasts. There is a seated figure of a god or a king, and two reclining bulls. Finally, there is a flat plaque decorated in relief, with two bull-men flanking a sacred tree and holding up a winged sun-disk. They stand on the backs of bulls. This plaque, surrounded by typical Hittite figures, looks decidedly foreign. It may have been imported from a site in northern Syria or Assyria.

A spectacular bronze ax head said to be from Sarkışla in eastern Cappadocia, continues the ancient tradition of ceremonial weapons. It is covered with eagle heads, lion and griffin protomes, mixed creatures, and Hittite gods in high relief or half-round. The sanctity of such weapons is proved by a relief on the rock face of the imperial Hittite sanctuary at Yazılıkaya showing an enormous dagger thrust into the ground. It has a hilt made of crouching lions and the upper part of a god.

THE IRON AGE

In the Iron Age, the Phrygians of central Anatolia buried their dead with rich grave gifts, and numerous intact tombs were found at their capital, Gordion. For the first time since the third millennium, we have a full corpus of contemporary decorative arts. The Phrygians revived pottery as an art form, with their exaggerated spouts and

handles, zoomorphic vessels and spouts, and even some trick vessels. Monochrome pottery again has sculptured shapes, and thanks to the tombs, we have the bronze vessels it imitated. A fine group of buff-colored vessels carefully painted in brownish-black has panels of lively, if unrealistic, bulls, goats, and fish hawks between panels of tiny geometric motifs (fig. 4). Architectural tiles with painted scenes, such as depictions of highly stylized soldiers or a battle with the Minotaur, were a new item in the Anatolian repertoire.

Royal Tomb Furnishings

Inlaid wood furniture was well preserved in the tomb of King Midas at Gordion, and it displays the same taste for exotic shapes and tiny geometric patterns prevalent in other media. There are screens with complicated inlays for the front side of an unusual narrow pot stand. An elaborate table has delicate curved legs and sides made of inlaid pillars. The closest modern parallel to this unique furniture is the gingerbread

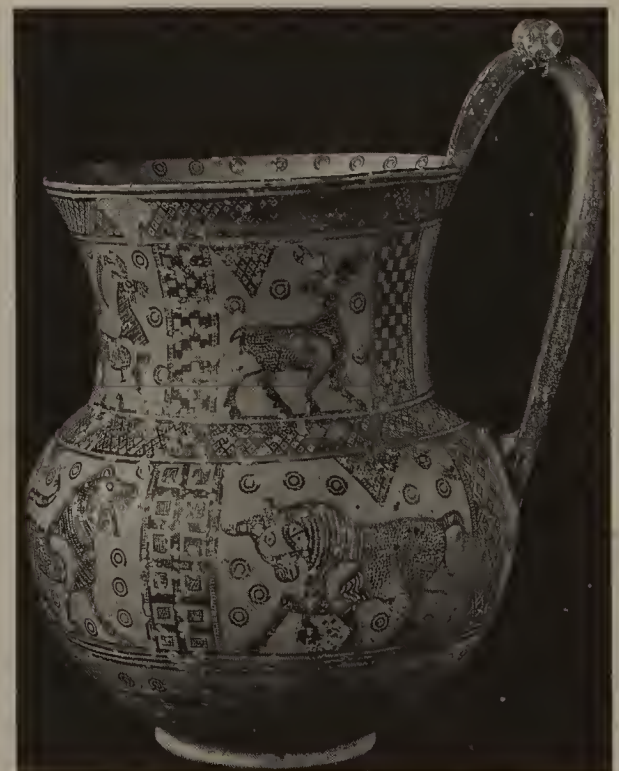


Fig. 4. Painted Phrygian jug from Tumulus P, Gordion, decorated with animals, eighth century BCE. THE UNIVERSITY MUSEUM OF ARCHAEOLOGY AND ANTHROPOLOGY, UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA

and extravagant shapes of the mid-Victorian period. Wooden saucers, platters, and ladles have thick open-work handles and geometric inlay. Leather belts were also decorated with tiny geometric inlays made of bronze. A wide variety of elegant bronze bowls and pitchers were found in large numbers in the tombs. (See "Midas of Gordion and the Anatolian Kingdom of Phrygia" in Part 5, Vol. II.)

Lively, highly stylized animal figures of the type seen on the pottery were also carved out of wood or ivory in the round or in relief. An ox with a heavy yoke and deer enrich the catalog of types. A miniature chariot pulled by four horses is welcome evidence for the type of royal vehicle used at the time. Relatively little jewelry was found in the Midas tomb, except for many heavy fibulae—clasps that functioned like safety pins—made of bronze and simply decorated with ridges and knobs.

Unlike the earlier royal Anatolian tombs, the Gordion tombs held imports: pottery, ivory, and gold jewelry from eastern Greece; ivory horse trappings with elaborate patterns of winged genii and animal combats carved in northern Syria; and Persian, as well as persianized, cylinder seals. There are also in the Anatolian Iron Age many types of objects that defy cultural or geographical classification. We do not know where they were made, since they have been found over a broad area. Good illustrations of this phenomenon are the bronze situlae (small buckets) with elegant lion or ram heads at the bottom that were in the Midas tomb at Gordion but had been long known from an Assyrian relief. Similarly, the origin of the giant bronze cauldrons with heads of sirens, griffins, or bulls peeking over the edge found at Gordion is still in dispute, since identical vessels have been found from Etruria in Italy to Urartu near Lake Van in eastern Turkey. Tiny geometric patterns, beloved of the Phrygians, are also popular in the geometric period in Greece. Vessels of "Egyptian" blue paste were imported to Anatolia from Cyprus, northern Syria, and Phoenicia, but the exotic handles in the shape of a lotus are known from metal vessels found in northern Syria as well as Phrygia.

A change took place after the "dark ages" between the end of the Bronze Age (circa 1200) and the beginning of the Iron Age (circa 900).

Anatolia had been integrated into the rest of the Near East economically since the third millennium and politically since the second millennium. It had, however, kept the style, technique, and subject matter of its local products relatively free of outside influence during these centuries. Then, in the Iron Age, while still producing objects of unmistakable Anatolian style, its craftsmen joined the international world of specialists engaged in far-flung trade.

BIBLIOGRAPHY

Books

EKREM AKURGAL and MAX HIRMER, *The Art of the Hittites* (1962), is a good corpus of material from second- and third-millennium sites in central Anatolia; KURT BITTEL, *Die Hethiter: Die Kunst Anatoliens vom Ende des 3. bis zum Anfang des 1. Jahrtausends vor Christus* (1976) is the most modern book with good color illustrations of most of the material mentioned in this article, as well as an extensive bibliography; HAMIT KOŞAY, *Les Fouilles d'Alaca Höyük . . . rapport préliminaire sur les travaux en 1937-1939*, Turk Tarih Kurumu Yayınlarından, ser. 5, no. 5 (1951), is a detailed account of the royal tombs at Alaca Hüyük; chapter 7 in JAMES MELLAART, *Earliest Civilizations of the Ancient Near East* (1965), is a popular account that includes the best pieces from Çatal Hüyük, Hacilar, and the other contemporary sites to which they may be compared, and *Excavations at Hacilar*, 2 vols. (1970), the final report on the Hacilar excavations, is generously illustrated. N. ÖZGÜÇ, *The Anatolian Group of Cylinder Seal Impressions from Kültepe*, Turk Tarih Kurumu Yayınlarından, ser. 5, no. 22 (1965), is a full account of the provincial Anatolian sealings of the Colony period; HUBERT SCHMIDT, *Heinrich Schliemann's Sammlung trojanischer Altertümer* (1902), is a catalog of the finds from the first excavations of Troy, including the several hoards; and RODNEY S. YOUNG et al., *The Gordion Excavations Final Reports*, vol. 1, *Three Great Early Tumuli*, edited by ELLEN L. KOHLER (1981), contains the fullest account of the rich tombs at Gordion.

Articles

N. ÖZGÜÇ, "Seal Impressions from the Palaces at Acemhöyük," in *Ancient Art in Seals*, edited by EDITH PORADA (1980), provides the fullest account to date on the unusual stamp seal impressions from this rich site; and PRUDENCE OLIVER HARPER, "Dating a Group of

Technology and Artistic Production

Ivories from Anatolia," *Connoisseur* 172 (November 1969), gives a full description of the fine ivories from

Acemhöyük now in the Metropolitan Museum of Art in New York.

SEE ALSO **Jewelry and Personal Arts in Ancient Egypt** (Part 7, Vol. III); **Jewelry and Personal Arts in Ancient Western Asia** (Part 7, Vol. III); and **Anatolian Architectural Decorations, Statuary, and Stelae** (Part 10, Vol. IV).

8

Religion and Science

Ethics and Piety in the Ancient Near East

GIORGIO BUCCELLATI

*¡Ay! ¿quién podrá sanarme?
Acaba de entregarte ya de vero.
No quieras enviarme
de hoy más mensajero:
que no saben decime lo que quiero.*

John of the Cross, *Cántico Espiritual* 6

PRESUPPOSITIONS

Irreversibly, the unfolding of human history has led to an ever-growing expansion of our collective consciousness. The accretion of experience has never reached a ceiling beyond which further expansion either would be impossible or could occur only at the expense of other experience previously acquired. Like a diamond able to grow outwardly in size and inwardly in clarity, cumulated human experience leads to an ever-greater depth of perception. Here lies the worth of culture, which serves as the mechanism for the transmission of personal experience at the social level, and here lies the beauty of history, which helps tell how it all happened.

I choose to assume irreversibility in order to stress, ironically, what may appear at first to be a glaring example of cultural reversion or, at least, the abandonment of earlier stages of experience. At first blush, in fact, it would appear that polytheism was jettisoned as a naive perception of the divine when it came to be replaced by monotheism. And most would ask whether we can attribute a genuine and rich religious experience to a theological system so riddled with internal antinomies at best or sheer fantasies at worst.

In any case, whether or not we heed the strong condemnation of polytheism that the monotheistic tradition of ancient Israel articulated so poignantly in the Bible, what can we see of value and relevance in the ancient near eastern polytheistic experience? I propose to show some reasons for seriously viewing ourselves as the heirs of ancient polytheism, for accepting such tradition as a valid and genuine religious experience, and for analyzing the ancient Israelite ethics and piety from the point of view of its cultural matrix (the “pagan” Near East) rather than the other way around.

I will clarify my understanding of some basic concepts. First, a “collective consciousness” may at first appear to be a contradiction in terms, since consciousness is an exclusive prerogative of the individual. What I mean to say is that individual consciousness is affected by culture. Not that culture is in itself either consciousness or experience. Rather, culture provides the social context through which one person can touch another without the two even being known to each other, across boundaries of space and time. Thus, through culture the personal experience of one can be kindled in another, expressive registers can be appropriated and transformed,

and thereby individual consciousness can be expanded.

"Religion" I take to be the culturally articulated interaction between humans and their own perception of the absolute. While religion as such has a broader scope than the one pertinent to our current theme, it is of fundamental importance for a proper understanding of ethics and piety. Religious interaction occurs between two poles: (1) the characteristics attributed to the absolute and the modalities through which the absolute is perceived to communicate with humans constitute a definition of the divine world (theology, mythology, etc.); (2) the religious response that human culture articulates for itself socially and expects of its members individually defines the nature of religious practice (cult, prayer, etc.). The divine pole in this interaction is by definition intangible and thus remains beyond the reach of historians; in this capacity, we have no means to determine whether the divine world is an ontological reality or a mere fantastic projection. But it is sufficient, as it is indispensable, for historians to identify the perceptual range within which such an absolute was apprehended and through which its characteristics were communicated culturally. Such a perception of the absolute, which affected both ethics and piety at their core, will be discussed below.

"Ethics" is the identification of absolute values that condition human behavior; it is also human behavior itself to the extent that behavior is affected by such values. Regardless of whether these values are real or merely perceived as such, they impact dramatically on human life. It is this affecting presence that we will especially consider later. To the extent that these values are perceived as absolute, ethics is religious in nature, in the sense of religion as defined above. There are, however, fundamental differences in the way ethics is related to the perception of the divine, and this strongly affects the definition of ethical systems—for which the Near East offers a very clear case in point.

The personal, individual response elicited in humans by their perception of the divine is what we may call "piety." The outward organization of cult has a bearing on piety, in that individuals may find a genuine echo of their personal religious feelings in the structure of rituals planned for social needs. But it is especially in the expres-

sion of personal religion that piety becomes evident, in those moments when human confrontation with the divine is most deeply felt. This psychological dimension of piety, a power of surrender to a spiritual dimension, will be brought into focus.

THE SHAPE OF PERCEPTION

From the very beginning of historical documentation in the Near East, the recognition of religious values was certainly more than a vague apprehension of received customs or habits; similarly, the expression of piety was more than the inarticulate surge of basic feelings toward some unknown power. Both ethics and piety assumed, at an early stage, a well-defined cultural embodiment that channeled and coalesced human perceptions into a shared body of forms. Just as important as the human needs for attention and response was the other term of the equation, the absolute or divine presence that was perceived to lend attention and to furnish the response, for such a perception had a very distinct shape—or, rather, distinct shapes, depending on time and space.

We will focus on the two most distinctive, if disproportionate, types: the "polytheistic" and the ancient Israelite perception. The disproportion arises most visibly in terms of their respective constituencies: a presumed minority in ancient Israel, whose views are reflected in the Hebrew Bible, versus the masses, urban and rural, cultivated and not, in the rest of the ancient Near East. For reasons of our own cultural tradition, our view of the polytheistic Near East is colored by the posture assumed by the Israelite tradition. (I will use the term "Israelite" to refer to that portion of ancient Israel whose views are reflected in the biblical tradition. How widespread and popular this view may have been within Israelite society need not concern us here, but it should be remembered that much of the "polytheistic" perception was widely shared within Israel itself. Under "polytheistic Near East," on the other hand, I subsume the traditions of southwestern Asia and of Egypt.)

A first important observation is that while we have no record of the polytheistic tradition ever

assessing the merits of the ancient Israelite tradition, we are all familiar with the aggressive and articulate rejection of the former by the latter. This is obviously conditioned by the relative significance of the overall cultural milieu, Israel being a small provincial entity and therefore unable to command much attention in the world of the great powers and the great cultures. In point of fact, the polytheistic traditions do not exhibit much sensitivity for their individual distinctiveness. Marginal exceptions are found in very special settings, such as a letter written by the monarch of a powerful border kingdom, Aziru of Amurru, to Akhenaten, in which he refers to the main Egyptian god simply by the letter A, leaving open the question as to whether he means Amun or Aten (Aton). (See "Hymn to Aten: Akhenaten Worships the Sole God" later in this volume.)

But there is another dimension to this disproportion of perceptual ranges, one that is more surprising. Ancient Israel does not view its tradition as being chronologically parallel to that of polytheistic religions but, rather, as one that came into being relatively late, long after the establishment of the other tradition, and as a result of a concrete phenomenon of "conversion." Instead of a mythical cosmic time that precedes, and out of which flow, all other cultural and religious traditions, ancient Israel recognized its beginnings in the conversion of Abraham, who was perceived as a Mesopotamian polytheist breaking away from a preexisting tradition—a view stressed in a special way in certain aspects of the tradition (e.g., Joshua 24:2). The lack of a remote ancestry shared with all other cultures would seem to diminish the luster with which the Israelites might have wanted to endow their understanding of their own past—all the more so, in fact, given the rather demeaning nature of the peasant traits of this early tradition. And yet it is precisely in this almost embarrassing setting that Israel saw the origin of the cultural channeling of its own spiritual experience: in harking back to the "god of Abraham," Israel rejected a cosmic time as the point of origin for the god it worshiped. The "event" of the conversion of Abraham as perceived in the Israelite tradition bears much relevance for our immediate interest here.

Let us pursue this line of thought with regard

to the polytheistic perception. The Mesopotamians, Phoenicians, or Egyptians did not perceive their religions as having had any particular beginning. The various theogonies refer to the origin of the various gods rather than to the human recognition of their divine world, and, just as important, they are only apparently accounts of a beginning; more properly, they are the description of a process of transformation, whereby an amorphous whole becomes progressively more finely differentiated. What religion describes is ultimately a form of entropy. In this sense, polytheistic religion appears as more rational than its Israelite counterpart. The absolute divine reality is upstream of the individual gods: it is the universal fate that defines the nature of things and the laws of their inner workings. In this perspective, we are not dealing with a "polytheistic" conception but with a unified system based on the applicability of predictable laws. We will see the effect that this has on ethics.

At this juncture I wish to stress the element of predictability as a factor in the characterization of the divine. In the biblical account, the event of Abraham's call is wholly un-Mesopotamian (although it happens to Abraham when he is still, technically, a Mesopotamian) because of the change it proposes: rather than rationally appropriating a portion of a predictable universe (as a Mesopotamian might do through divination), a human being is asked to bare his consciousness and accept one unpredictability after the next. The later patriarchal tradition of Joseph stresses the same trait in what is an even more technical juxtaposition: dreams are to be interpreted not according to established patterns but according to an intuition essentially based on the apprehension of the unpredictable (i.e., of what is not rationally channeled).

Fate is predictable not in the superficial sense that it can be predicted but because by its very operation it regulates in an invariable way both the horizontal and the vertical dimensions of reality—that is, the nature of things and their destiny. It is predictable, therefore, by virtue of the laws it implements, onto which both gods and humans can partially open windows, especially through the exercise of divination. This can be understood not as an irrelevant and super-

stitious practice of magic but as the honest effort to identify the inner, rational harmony of the universal order, of which fate is the pervasive glue and the gods but the keepers.

This leads to one further point of comparison and contrast, having to do with the issue of communicability. There is, in Mesopotamian polytheism, no particular expectation that fate will be endowed with the power of self-expression: it is an inert force which does not properly "will" anything, and to which one does not address any form of human self-expression (prayer). Fate communicates through its very predictability, through the fact that its recurrent patterns, its laws, are recognized. (In Egyptian polytheism, fate is more specifically personified as Shaï; Ma'at, as a personified principle of order and a specific cosmogonic principle, may appear as a less impersonal equivalent of fate. But as an overall structure system, to the extent that one envisages the pantheon as a whole in its relationship to the world of values, the Egyptian and the Mesopotamian situations are much closer to each other than either one is to that of Israel.)

The god of Israel can communicate only by articulating what his current choices are, since there is no rationally predictable pattern that can be ascribed to him. This god is perceived as addressing the individual (and through him the community) in order to articulate what his volition may be from one time to the next. First of all, he "wills" in a very specific and targeted manner, which may have surprisingly little bearing on established (cultural) patterns; second, he communicates the details of his choice; third, he expects humans to accept his choice, not to conquer it, as it were, through a human process of rational discovery. In this sense, the biblical term "Living God" acquires a special significance: it refers to the free and active dimension

perceived as proper to God, in contrast with the underlying and inert dimension of fate.

THE AFFECTING PRESENCE

It is to this opposition of acceptance versus discovery that we now turn our attention. Religious culture is, in Israel, acceptance of communicated unpredictability; in polytheism, it is discovery of a predictability that carries its own self-declaration in its patterning and in the rational scrutiny it invites. To the extent that these values touch on human behavior, religious culture blends with ethics: the values that are shared within a community and condition the reality of daily human existence carry all the weight of a profoundly affecting presence, whatever our assessment of its ontological status may be. On the face of it, there are overriding similarities between the content of the value systems of the polytheistic and the Israelite worlds, to such an extent that we may be tempted to ascribe the differences to a mere question of literary taste and compositional frame. Out of several texts that could be adduced, I will choose two parallel sets, from Mesopotamia and from the Hebrew Scriptures and the New Testament. The first is a comparison between a Mesopotamian collection of incantations aimed at purifying a sinner of his or her faults and the biblical text which contains the Decalogue. (The Mesopotamian text is known by the Akkadian term *Šurpu*, which means "burning." The arrangement given below follows the sequence of the Mesopotamian text, except for passages marked by ">," which anticipate passages given later in the text. The numbers in square brackets refer to the sequence of the Ten Commandments in Exodus 20:8; parentheses around square brackets refer to similarities that are only partial.)

Šurpu, Tablet 2

Incantation. Be it released, great gods, lords of absolution, NN, son of NN, whose god is NN, whose goddess is NN,

who has eaten what is taboo to his god

who said "no" for "yes," who said "yes" for "no"; who pointed his finger accusingly behind

Exodus, Chapter 20

Moses then went up to God, and Yahweh called to him from the mountain . . .

([4]) Remember the sabbath day and keep it holy . . .

[9] You shall not bear false witness against your neighbor.

the back of his fellow man; who calumniated,
spoke what is not allowed to speak; who as a
witness caused wicked things to be spoken;
who caused the judge to pronounce incorrect
judgment

who scorned his god, despised his goddess
> he does not know what is a crime against
god. . . . his sins are against his god . . .

who has oppressed the weak woman; who
turned a woman away from her city; who es-
tranged son from father, who estranged father
from son, . . .

> he is full of contempt against his father . . .
he despised his parents, offended the elder sis-
ter . . .

who did not free a captive, did not—let the pris-
oner see the light of day, . . .

he gave with small measure, and received with
big measure . . . he used an untrue balance
. . . he took silver that was not his . . . he set
up an untrue boundary . . .

he entered his neighbor's house

he approached his neighbor's wife

he shed his neighbor's blood

he ousted a handsome young man from his fam-
ily, he scattered a gathered clan

> he slept in the bed of an accursed person,
. . . he drank from the cup of an accursed person

he omitted the name of his god in his incense
offering, he made the purifications, then com-
plained and withheld it; . . . he has sworn
after he did something . . .

[1,2] You shall have no gods except me. You shall not
make yourself a carved image. . . . You shall not bow
down to them or serve them. For I, Yahweh your god,
am a jealous god . . .

[5] Honor your father and your mother . . .

[8] You shall not steal.

[10] You shall not covet your neighbor's house.

[10] You shall not covet your neighbor's wife.

[6] You shall not kill.

([7]) You shall not commit adultery.

([3]) You shall not utter the name of Yahweh your god
to misuse it . . .

The second comparison is between two texts
that range even farther afield. One is a Mesopota-
mian text known as the Moral Canon, which

deals with a description of psychological atti-
tudes, and the other is a major Christian mani-
festo, the Beatitudes.

Moral Canon (by page and line)

96:11 If he says "I am poor," he will become rich.
86:6 If he says "May I become poor," . . .
96:10 If he says "I am weak," he will become
strong.

Matthew 5; Luke 6

5:3 Blessed are the poor in spirit, because theirs is
the kingdom of heaven.
6:20 Blessed the poor, because yours is the kingdom
of God.

Continued on the next page.

Continued from the previous page.

96:9 If he says "I am powerful," he will become small.

96:8 If he says "I am a hero," he will be shamed.

98:21 If he is impetuous, he will not obtain what he wishes.

104:15 If in his heart he wants mortification, he will prosper.

94:46 If he is surrounded by wealth, he will let go of everything, he will die soon.

98:22 If their heart is troubled, it will rejoice, it will light up.

98:23 If he is sick in his heart, he will be answered in his inmost desires.

98:25 If his heart is in the dark, he will rejoice.

86:18 If in his heart he weeps constantly, . . .

104:12 If he asks himself "Why should I keep it up?" he will rejoice.

102:37 If he is in joy, a depression will seize him.

92:34 If he says all the time "When shall I see? When shall I see?" his days will become longer.

102:26 If there is too little for him, he will prolong his life, he will have sufficient food.

102:27 If everything goes well for him, either death or poverty will come.

98:35 If his health is good, a serious disease will overtake him.

102:32 If he is just, and nevertheless things go wrong, later on things will go better.

102:25 If he speaks according to justice, he will have a good recompense.

102:34 If he is just, he will see light.

86:12 If he is flattered, he will not obtain . . .

100:14 If he is always praised, he will remain well.

98:32 If he loves what is good, only goodness will follow him all the time.

98:26 If he has a great heart, he will reach old age.

107:31 If he is endowed with fear (of god?), he will be victorious.

98:36 If he is merciful, he will die in abundance.

94:45 If he does favors, people will do favors to him.

98:24 If he is limpid in his heart, he will find honor.

100:7 If he is pure . . .

92:38 If "yes" and "no" follow in good order in his mouth, hunger will go from his granary.

6:24 Woe to you rich, because you have received your consolation.

5:4 Blessed are those who mourn, because they will be consoled.

6:21 Blessed you who are weeping now, because you will be comforted.

6:25 Woe to you who are laughing now, because you will suffer and weep.

5:6 Blessed are those who hunger and thirst for justice, because they will be sated.

6:21 Blessed are those who hunger now, because they will be sated.

6:25 Woe to you who are full now, because you will hunger.

5:10 Blessed are those who are persecuted for the sake of justice, because theirs is the kingdom of heaven.

6:26 Woe when everybody will say good things about you, because in the same manner they have dealt with the pseudo-prophets.

5:5 Blessed are the meek, because they will be comforted.

5:7 Blessed are the merciful, because they will find mercy.

5:8 Blessed are the pure of heart, because they will see God.

83:1 If he is tranquil in his heart . . .

94:51 If he is concerned about helping others, the gods will follow him all the time.

5:9 Blessed are the peacemakers, because they will be called sons of God.

The synoptic arrangement of these texts will suffice to bring out the similarities of content, on which I cannot dwell here. The stylistic differences may be mentioned briefly. The Mesopotamian texts are phrased in the manner of scientific texts, which posit a hypothesis and the pertinent inference. They are not within a narrative frame; in other words, they do not issue from any specific event, nor are they attributed to any particular person. The Decalogue and the Beatitudes, in contrast, are declarations pronounced with an authority that is recognized as divine, and they are attached to very specific events and individuals. Not that there are no narrative frames in which the identification of values is linked to narrative events in the polytheistic systems. Within the Mesopotamian sphere, for instance, there are several myths about the handling (and often the theft) of the “tablets of destiny,” which contain a repertoire of values. But these accounts are perceived as mythical in the sense that they are not attributed to human beings, much less to persons who are understood to have lived within very specific parameters of time and space, as Moses and Jesus did. Even more important, the events narrated in the myths are not presented as the fountainhead of a well-defined, coherent, and continuous tradition that, in the consciousness of its followers, has validity because it harks back to such an event. In Mesopotamia, as in the Egyptian polytheistic tradition, the myth is the imaginative, articulate, and well-reasoned exegetical counterpart of the more generalized perception contained in the scientific texts such as the Moral Canon quoted above.

This leads to a more far-reaching set of considerations having to do with the connection between ethical values and the divine sphere. In the polytheistic system, values are coterminous with the perception of the absolute; and conversely, their violation is a sin not in the sense of a personal offense against fate or any god in particular but, rather, in the sense of a breach that affects the harmony of a global order embodied by fate as the underlying nature of things. Sin is the disruption of a natural sequence, just as virtue is the harmonic adherence to such a

perceived (pervasive) synergy of values and forces. The values are not “willed” into being by an absolute power, such as fate or the gods; hence, sin is not disobedience of a willed mandate. It is, in a sense, an even more direct attack on the world of values because it lessens its congruence, it takes something away from it. The reparation that is made through the various incantations is meant to dissolve almost physically the stain of evil and to regenerate the harmony to its original steady state.

In Israel, values also are coterminous with the divine world, but only because they are posited by the explicit will of God, to such an extent that the will of God becomes the supreme value that can be perceived by humans, all the more so whenever it defies the canons of reasonable expectations. The most emblematic example is the prohibition to eat of the tree of knowledge of good and evil—negating, as it does, that very control of good and evil which is such a value in the polytheistic cultures. The most dramatic example is the command that Abraham sacrifice his son—which negates the fundamental value of life and love. (Admittedly, this dimension is especially apparent in the narrative/legal materials. The Israelite wisdom tradition is, on the face of it, closer to its near eastern counterparts, though on further inspection the overriding impact of divine will emerges here as well, but in ways that I cannot develop here.) In this light, the Israelite experience affirms a dimension of religious culture that is almost totally absent in the polytheistic experience and that places quite a different light on ethics—the concept of faith. The greatest commandment (Deuteronomy 6:4–5) is to love God in the specific sense that a human being is expected to accept the will of God above and beyond even fundamental human values, which in and of themselves end up being considered as no more than cultural trappings.

The Israelite attitude becomes more and more radicalized over time and grows into a form of paroxysm with the prophets, who often see the cultural establishment as an obstacle to the personal and collective acceptance of the unadulter-

ated will of God. What keeps the system from going altogether topsy-turvy is another Israelite concept: the fundamental correlate of the notion of faith, the concept of the covenant. God's will is totally unpredictable but not capricious; there is a fundamental, if hidden, coherence to what may otherwise appear as the madness of his will, and this coherence is expressed by his ever-renewed covenants. The solidity of the world of values, which for the polytheistic experience lay in its apprehension, lies for Israel in the belief that the bond with a specifically God-chosen human community is willed on an institutional basis. God's will wills to bind itself and defines its own bonds: there is coherence to the world of values because God wills it and expresses it in his own terms. Thus, the internal unity of the Israelite perception is held together through a delicate tension between human faith and divine covenant, whereas the internal unity of the polytheistic system derives from its overarching control of the values themselves.

An important correlative of the notions of faith and covenant is the notion of prophecy and miracle. On the one hand, the Israelite God wills the values and communicates them through articulate discourse, which becomes an incarnate manifestation of his "word." On the other hand, he can affect the normal operation of reality and alter it, whether on his own initiative in the pursuit of his own designs (as with the miracles of Exodus) or in response to specific human requests (as with the miracles of Elijah and Elisha). The structurally correlative polytheistic notions are altogether different: in Mesopotamia they appear as omens and incantations. (These particular correlatives are missing in Egypt, possibly on account of the Egyptian cyclical view of history. Alternative structural correlatives may be found in certain aspects of the cult of the dead, but I cannot pursue this argument here.) Omens lay bare the intrinsic meaning of abnormal variations within the natural order (which are not willed individually but have a recurrent, universal value), and incantations offer a mechanism for recalibrating one's existence with these variations. The ethical impact of these contrasting beliefs is apparent and is in line with the distinction between acceptance and discovery stressed above. Omens and incantations are the result of a Prometheus-like conquest of a hidden,

but knowable and rational, web of interrelationships; hence, to the Israelite perception, they appear like a sacrilegious attempt to scale heaven, as in the emblematic episode of the Tower of Babel. Conversely, prophetic messages and miracles can be accepted only as individual occurrences, not discovered as patterned recurrences; hence, they cannot properly be part of the polytheistic ethos. (See "Prophecy and Apocalypics in the Ancient Near East" later in this volume.)

THE POWER OF SURRENDER

Lest the preceding emphasis on the rational aspects of the polytheistic system lead one to conclude that I am projecting onto ancient polytheism a form of rationalism similar to that of the European Enlightenment, we should turn to another side of the polytheists' perception of absolute values, that more subjective posture which emerges from a personal confrontation with these values. As was stressed above, predictability does not mean total vision; it refers only to a belief that the sum total of reality is intrinsically knowable if sufficient means can be found to control its broad range of manifestations. Human effort leads to an ever-greater appropriation of such means: the projection onto a mythical time of the creation of the city is a beautiful emblematic statement to this effect, urban culture being the supreme mechanism for effecting such appropriation. This effort is far from having been completed within the human sphere of action, but it is perceived as having been successfully achieved on another plane, that of the gods.

The gods provide the guarantee that the knowability of reality is not only potential but intrinsically factual and actual. They control predictability not because they are in themselves the wellspring of what is to be predicted but because they have surveyed it all and know the intrinsic congruence of reality. And they can help or hinder the human quest in the same direction. Which is why a polytheistic rationalism remains profoundly theistic. There is a burning sense of need, of expectation for something that the gods alone can provide, a profound attitude of sincere religiosity in the polytheistic

quest for harmony, a harmony with those absolute values which are known to be there but always beyond our reach. While ethics is the perception of an affecting presence that molds behavior, piety is the ever newly discovered power to surrender to this presence: the human ability to capture the world of values is related not only, and perhaps not so much, to the human power of perception but also to the human readiness to solicit and welcome the assistance of those who already fully enjoy this very perception.

There can be no question that there was genuine religious experience in the ancient Near East outside of Israel. The dichotomy between an idolatric, superstitious pagan culture and an authentically religious Israel is an image fed by the polemical statements found within Israel itself, but is at variance both with the evidence as we know it for the ancient Near East and, very possibly, with the original intent of those polemical statements. The dichotomy between superstition and authentic religiosity exists as much in the polytheistic cultures as it exists in Israel. It is true that the concept of idolatry as such is not part of the polytheistic conceptual world, where the notion of idol is missing. What, then, can be the yardstick in distinguishing between these two dimensions? There is, first, an extrinsic criterion that is explicit in the textual documentation itself. Incantations that are used to hurt fellow human beings are considered unacceptable "magic," which is punishable from the viewpoint of the legal system (*Code of Hammurabi*, Laws 1-5).

But how can the rest of what we label "magic" be subsumed under the rubric of authentic piety rather than of superstition? We must first shed the misconception that such practices as divination and incantations in Mesopotamia or funerary rites in Egypt were attempts to achieve a mechanical control over the supernatural. There was in fact a profound reverence and sense of expectation in the use of whatever cultural mechanisms were on hand to establish a contact with the supernatural, for which, if we wish to use a term derived from Christian conceptions, "sacramental" would be more fitting than "magical." Witness, for instance, the *Prayer to the Gods of the Night*, an invocation pronounced on the occasion of the sacrifice of a lamb whose entrails

are to be interpreted as a sign giving insight into the truth of things. The supplicant is standing on the roof of a temple, looking at a world asleep. It is a calm and dark night: even the moon and the brightest star (the morning star) are absent. The fire on the roof and the constellations in the sky are the only source of light, and to them the supplicant turns as operative sources of truth:

They have retired, the great ones.
The bolts are drawn, the locks in place.
The noisy crowds are still and quiet,
the open doors have now been closed.

The gods and goddesses of the land—
the Sun, the Moon, the Storm, the Morning-
Star—

have gone to where they sleep in heaven,
leaving aside judgment and decree.

Veiled is the night:
the thoroughfares are dark and calm,
the traveler invokes his god,
claimants and plaintiffs are fast asleep.

The one true judge, father of the fatherless,
the Sun, has gone into his chambers.

You, great gods of the night—
the bright Fire, the netherworld god of War,
the Pleiades, Orion, the Big Dipper,
and the other constellations,

may you stand by and then—
in the divination I am about to make,
in the lamb I will consecrate
—place truth for me!

From V. K. Shileiko, *Izvestiya Rossiyskoy Akademii
Istorii Material'noy Kul'tury*, vol. 3 (1924)

Nothing could be farther from an attempt at manipulation. There is trust in a specific cultural mechanism (divination through the sacrifice of a lamb), but this mechanism gives no special handle on power: if it conveys truth, it is because of the gods who are not asleep and who are asked, not coerced, to lend assistance.

If texts like the one just quoted give indication of a basic sincerity, they also seem to lay bare a surprising naïveté, which proclaims a fundamental impotence of the gods at the very time it seeks their assistance. How can one trust in gods who fall asleep? The myths are so replete with stories which are often outright demeaning for the gods that we can at least conclude that there was no apologetic defensiveness on this score

within the various polytheistic traditions. Their point of departure was so totally different that there was never even a trace of theistic doubt. The gods are perceived as beings who have a preferential access to the realm of the absolute, by virtue of special ontological qualities with which they are endowed (such as invisibility and immortality). The fact that they are a multitude, each limiting the other because each is associated with a specific aspect, implies that none is absolute. But they all have closer access to the absolute world of values, to that fate which ultimately controls the nature and destiny of everything. The "mystery" (to use a positive term, though some may prefer "absurdity") of this belief is that fate is absolute, except for personhood. That is why there is no piety or cult involving fate, save for a limited and partial exception in Egypt, mentioned above.

The gods are the links between the personal and the impersonal: piety is directed to them because they are the windows, in varying degrees of openness and transparency, onto the ultimate level of being and power. The sun in heaven and the fire on the rooftop are concrete embodiments of these windows onto something deeper, something that holds everything together: they are one degree removed from the inertia of fate, because they can and do lend help (heat and light) in a very concrete way. They are appropriate targets of our human piety because they mediate between the absolute and absolutely inert power of fate and the groping needs of humans. The *Prayer to the Gods of the Night*, which served as a starting point for these considerations, is particularly apt to show at the same time the complementarity of the gods in their function as windows onto the absolute: some gods sleep while others wake, but the net result is that some are always available, through an intrinsic and pervasive synergy process.

The religious experience of ancient Israel grew out of the framework of this polytheistic experience. I have already stressed that the Israelite tradition expressly underscores the relative lateness of its beginnings, which are situated at the core (geographically and chronologically) of the polytheistic tradition. Also, the nature of the polemical emphasis against polytheism, which grows almost exponentially

within Israel, implies, if nothing else, a dialectical interaction with polytheism, which would have influenced monotheism, at least in terms of the themes it was induced to accentuate. As repugnant as it may at first seem to some, a sympathetic knowledge of this spiritual environment, which clearly conditioned the development of Israel, may help us to understand the Israelite experience. The profound intensity of Israelite piety did not emerge full-blown out of nowhere; it is in fact the internal self-assessment of that tradition which shows a steady cultural growth of modes of consciousness, beginning with a plain and simple polytheistic state.

Without wishing to suggest any simplistic type of evolutionary scheme, it seems fair to say that Israelite piety appears to bring to full fruition, in some respects, what polytheistic piety had been earnestly and consistently striving for. In polytheism, it is the gods who, through their personal attributes, establish a personal link between the worshiper and the underlying, inert power of fate. In Israel, a single absolute and personal God seems to unify within himself the unboundedness of fate and the personal characterization of the gods. While the gods are windows onto the absolute, the God of Israel is perceived as the absolute who of his own volition opens himself to direct access—who is, as it were, his own window. Israelite piety vibrates with the wonder that such a full interaction may be possible: the concept of the "living God" may perhaps be seen in a new light that allows one to appreciate its emotional impact, whether or not one responds to it with a sense of personal involvement. Viewed thus, Israelite piety appears to be the crowning of the polytheistic experience rather than its dethroning.

CONCLUSION

The words of Sophocles give eloquent and sophisticated expression to the role of fate within a polytheistic ethos:

Destiny guide me always,
Destiny find me filled with reverence
pure in word and deed.

Great laws tower above us, reared on high
born for the brilliant vault of heaven—

Olympian sky their only father,
nothing mortal, no man gave them birth,
their memory deathless, never lost in sleep:
within them lives a mighty god, the god does
not grow old.

Oedipus the King,
translated by Robert Fagles (1984) (954–962)

Appropriately, a tragic contrast emerges from
Oedipus's experience, perhaps more than that
found in any near eastern text stemming from
the polytheistic experience:

What god,
what dark power leapt beyond all bounds,
beyond belief, to crush your wretched life?
(1435–1437)

Thus sings the chorus, to which Oedipus an-
swers,

My destiny, my dark power, what a leap you
made!
.....
Dark, horror of darkness
my darkness, drowning, swirling around me
crashing wave on wave—unspeakable,
irresistible headwind, fatal harbor!
(1447–1453)

The dark night of the soul to which Sophocles
gives such eloquent voice stems from the recog-
nition that the primordial impersonality of fate
can ultimately become total unknownness, sym-
bolized by the stark imagery of darkness. Inter-
estingly, the closest parallel comes not from the
polytheistic Near East but from Israel, in such
texts as the so-called confessions of Jeremiah or
Job. Israelite piety is clearly no cheap insurance
against suffering and disillusionment. Just as pre-
dictability in the polytheistic system does not
mean total vision, so immediate personal accessi-
bility to God in the Israelite experience does
not mean that God is automatically within reach.
It is a tortured spiritual itinerary that the new
religious experience can map for its adherents,
one that requires a profound interior coherence
and sustained commitment. A recognition of
these traits of ancient Israel leads to a firmer
appreciation of its historical role. Both the per-
ception of values and the response to them can

be placed in a continuous and coherent line of
cultural development.

Conversely, we may also be in a better posi-
tion to recapture, through the kind of personal
appropriation that is part and parcel of a humanis-
tic endeavor, the fundamental values of ancient
polytheism and to recognize their perhaps unsus-
pected survival in our own culture. Reflections
of this ancient value system are found in our
basic belief in the rational unity of a knowable
world; in the perception of the essential congru-
ence of the laws of nature and our intellectual
ability to apprehend them; in the skepticism one
has in accepting the ontological short circuit rep-
resented by inspiration and miracles; and in the
certitude that our current inability to control the
full spectrum of reality is a matter of quantitative
reach, not of ontological capability. To the
extent that we recognize any absolute value
(whether ethical, logical, or otherwise), we share
the basic belief in some single principle that
underlies the multifaceted dimensions of real-
ity, and to the extent that this principle is
assumed to have a capacity for interaction, we
perceive it in terms that are ultimately theistic,
regardless of whether a corresponding terminol-
ogy is employed.

Finally, it is perhaps deceptive if we think
that the gods themselves are the one important
element of ancient polytheism missing from our
society. The perception that is at times projected
within currently established religious cultures
seems perfectly in tune with a conception that
gives pride of place to values rather than to a
personal, independent, and possibly "irrational"
agent. The fact may be that the two percep-
tions tend to be in a more fluid interrelationship
than we may think and that our own religious
self may be more frequently divided between
the two than we realize. It is to this internal
spiritual antinomy, first fully articulated in the
ancient Near East, that the great Spanish mystic
quoted at the beginning of this article gave
voice:

Alas! who can ever heal me?
Oh, that you, my God,
may ever fully surrender yourself in truth
to me!
Do not, I beg, send any longer
messengers who take your place
and do not know enough to tell my needs!

BIBLIOGRAPHY

RAINER ALBERTZ, *Persönliche Frömmigkeit und offizielle Religion: Religionsinterner Pluralismus in Israel und Babylon* (1978), an important study on personal piety; JAN ASSMANN, *Ägypten: Theologie und Frömmigkeit einer frühen Hochkultur* (1984), a sophisticated presentation of ethics and piety in Egypt, and *Maʿat: Gerechtigkeit und Unsterblichkeit im Alten Ägypten* (1990), an in-depth analysis of a basic Egyptian concept, with similarities to the concept of fate as proposed in the text of this article, but with a stronger connection to the moral dimension than the Mesopotamian fate; JOHN BAINES, "Society, Morality, and Religious Practices," in *Religion in Ancient Egypt*, edited by BYRON E. SHAFFER (1991), discusses Egyptian piety in its social and religious setting; his "Contexts of Fate: Literature and Practical Religion," in *The Unbroken Road: Studies in the Culture and Heritage of Ancient Egypt in Honor of A. F. Shore*, edited by CHRISTOPHER J. EYRE, ANTHONY LEAHY, and LISA MONTAGNO LEAHY (1994), provides a treatment of fate in Egypt; M. DAVID, *Les Dieux et le destin en Babylonie* (1949), still the only comprehensive volume on fate in Mesopotamia and useful in spite of its age; J. J. FINKELSTEIN, "The West, the Bible, and the Ancient East: Apperceptions and Categorisations," *Man* 9 (1974), is an important discussion of the different approaches of Mesopotamian and biblical thought; M. GÖRG, "Persönliche Frömmigkeit, in Israel und Ägypten," in *Fontes atque pontes: Eine Festgabe für Hellmut Brunner, Ägypten und Altes Testament*, vol. 5, edited by M. GÖRG (1983), objects to an exclusion of Egypt from the comparison of the Hebrew Scriptures and the polytheism of the ancient Near East, and develops an example of trust in God; THORKILD JACOBSEN, *The Treasures of Darkness: A History of Mesopotamian Religion* (1976), a classic presentation of Mesopotamian religion, ethics, and piety, see especially chapter 5.

FRITZ RUDOLF KRAUS, "Ein Sittenkanon in Omenform," *Zeitschrift für Assyriologie* 43 (1936), and *Texte zur babylonischen Physiognomatik* (1939), edition of psychological omens pertaining to the Moral Canon quoted in the section "The Affecting Presence"; SIEGFRIED KREUZER, *Der lebendige Gott: Bedeutung, Herkunft, und Entwicklung einer alttestamentlichen Gottesbezeichnung* (1983), a documentary review of the materials, with ample references to near eastern parallels; KORNELIS H. MISKOTTE, *When the Gods Are*

Silent, translated by JOHN W. DOBERSTEIN (1967), an eloquent, sympathetic appreciation of pagan polytheism from the unlikely point of view of biblical "practical theology"; A. LEO OPPENHEIM, *Ancient Mesopotamia: Portrait of a Dead Civilization* (1964), a provocative and influential approach to Mesopotamian religion, see especially pp. 201–206; J. QUAEGBEUR, *Le Dieu égyptien Shai dans la religion et l'onomastique* (1975), a detailed presentation of the philological evidence for the Egyptian conception of destiny; ERICA REINER, *Supru: A Collection of Sumerian and Akkadian Incantations* (1958), edition of the incantations quoted in the section "The Affecting Presence"; J. J. M. ROBERTS, "Divine Freedom and Cultic Manipulation in Israel and Mesopotamia," in *Unity and Diversity: Essays in the History, Literature, and Religion of the Ancient Near East*, edited by HANS GOEDICKE and J. J. M. ROBERTS (1975), a sympathetic look at the Mesopotamian practice of religion; YVONNE ROSENGARTEN, with ANDRÉ BAER, *Sumer et le sacré: Le Jeu des "prescriptions" ("me") des dieux et des destins* (1977), the notion of fate as seen through a particular and fundamental aspect of the Mesopotamian worldview, a set of regulations that govern the order of the universe; an understanding of fate that comes closest to the one I propose.

H. W. F. SAGGS, *The Encounter with the Divine in Mesopotamia and Israel* (1978), a useful review of information, though its methodology is not on the level of Assmann or Jacobsen, but see especially pp. 71–76, 126–138, 169–175; IRENE SHIRUN-GRUMACH, *Offenbarung, Orakel, und Königsnovelle, Ägypten und Altes Testament*, vol. 24 (1993), studies aspects of divine manifestation in Egypt, particularly in relation to the king; K. VAN DER TOORN, *Sin and Sanction in Israel and Mesopotamia* (1985), the best current discussion of ethics of the two cultures named, covering in part the texts and topics discussed in the section "The Affecting Presence" and the methodology of comparing the two cultures in question; WOLF-RAM VON SODEN, "Bemerkungen zu den von Ebeling in 'Tod und Leben' Band I bearbeiteten Texten," *Zeitschrift für Assyriologie* 43 (1936), edition of the prayer quoted in the section "The Power of Surrender"; HERMANN VORLÄNDER, *Mein Gott: Die Vorstellungen vom persönlichen Gott im Alten Orient und im Alten Testament* (1975), a very detailed presentation of the philological evidence pertaining to the personal God in Israel and the Near East.

SEE ALSO Theologies, Priests, and Worship in Ancient Mesopotamia (Part 8, Vol. III) and Theology, Priests, and Worship in Canaan and Ancient Israel (Part 8, Vol. III).

Myth and Mythmaking in Ancient Egypt

JACOBUS VAN DIJK

INTRODUCTION

The study of ancient Egyptian myth confronts us with a curious paradox. On the one hand, we are dealing with one of the most highly developed cultures of antiquity, in which writing played an essential role and which was admired by the Greeks and Romans for its wisdom and learning; for us, too, Egypt conjures up a picture not just of pyramids and sphinxes but also of hieroglyphs and papyrus. On the other hand, myth, despite its obvious importance in the religion of ancient Egypt, appears to have belonged largely to the domain of oral literature. Especially in the earlier periods of Egyptian history, myths do not seem to have been written down at all, at least not in the narrative form that we associate with the term “myth,” or if they were, such writings have not survived. In later times myths were sometimes used for practical purposes in magical spells, and hence they were written down in magical handbooks. However, here we are to a large extent dealing with the everyday religious practices of private individuals, not with the great state religion that was the driving force behind ancient Egyptian culture. A hymn of Ramesses IV to the god Osiris actually expresses this difference when it says that after magic came into existence, it was “written down, not told

from mouth to mouth,” obviously in contrast to other forms of religious discourse. On the other hand, myths are often alluded to in various non-narrative texts, such as hymns to the gods or ritual texts, and they also underlie the vast repertoire of iconographic representations that developed during the New Kingdom and that are found on numerous funerary objects, such as coffins and stelae, on tomb walls, and in funerary papyri.

Myths appear to have been a hidden factor in Egyptian religion, almost like a layer of ore that is visible on the surface only in some places. Perhaps the most striking illustration of this hidden nature of myth is the best known of all Egyptian mythological stories, that of Osiris and Isis. Although this myth must surely go back to remote times and is alluded to in countless religious texts and representations throughout Egyptian history, it is never told in the form of a straightforward narrative in Egyptian sources. Such a narrative can only be found at the beginning of the second century CE in the work of the Greek writer Plutarch, who wrote as an outsider for a non-Egyptian audience.

The Language of Myth

In the Egyptian language, there is no known specialized term for “myth.” The common word

for tale or story is *sḏdt*, "that which is told." This word can refer to anything people say or tell as a story, whether it is based on what we deem to be fact or not. One can tell stories about travels abroad, about things that have happened in the past, about the king's victories, or about the manifestation of a god. Sometimes the word is better translated as "rumor," "hearsay," or the like; in one case it is used for a story that is a lie. Clearly "truth" is not an essential element of the word *sḏdt*. The term can also be used for stories that have been handed down by past generations and for the wise words of sages from the past. Myths are also transmitted from one generation to the next, but because myths are concerned with religious truths, it comes as no surprise that the term *sḏdt* is never applied to myths. This fact is not without importance, for many cultures make a clear distinction between sacred myths, which are sometimes known only to the priests, and other tales, which everybody knows and that serve as entertainment. Only in one case does the word *sḏdt* refer to religious knowledge. In an autobiographical text from the middle of the Eighteenth Dynasty, a high official boasts: "I saw to the making of many monuments in the Temple of Amun in Karnak, the making of the sacred river-bark Userhat-Amun and the covering of it with gold, (making it) like the rising of Re, like what is told about (*sḏdt*) the Day-bark in the sky." Here the sacred bark of Amun is likened to the mythical bark in which the sun-god ferries across the sky, and knowledge about the appearance of this bark is obviously told, not written down; even here, though, this tale concerns a factual description, not a mythical narrative with a plot.

The Antiquity of Myth

From the relative scarcity of mythical stories some scholars have concluded that they were virtually nonexistent in the earlier periods of Egyptian history and that myths were a fairly late development, "invented" in order to give an extra, sacred dimension to previously existing rituals. According to a recent interpretation, the pantheon originally consisted of individual gods or small groupings of gods ("constellations"); the relationships among these gods were determined by static factors; one god could be charac-

terized as the son or the brother of another, or gods could be king or enemy, but no interaction took place between them, and so no mythical stories could be told about them. Consequently, myths originally played no significant role in Egyptian rituals; only at a later stage were the rituals hallowed, first by the involvement of small groups of deities, then by myths describing events in the world of the gods that were considered important for the efficacy of the ritual. Other scholars have pointed out that only the last stage in this development is well documented, whereas the earlier stages are hypothetical and based on arguments from silence. Various allusions in the oldest body of Egyptian religious literature, the Pyramid Texts, already imply the existence of stories about the murder of Osiris and the trials and tribulations of Horus and Seth.

Mystery and Myth

A more likely explanation for the absence of myths from early written documents is that they were originally transmitted orally, perhaps because knowledge of them was restricted to those directly involved in the state cult: the king and the fairly small group of high officials that later developed into a professional priesthood. Such a state of affairs is reflected by the use of the word *st*, meaning "secret," or "mystery," which is found in a Late Period text referring to the myth of the unification of Re and Osiris discussed below. In this text it is said that "he who will reveal it will be executed, for it is a great mystery (*št*), it is Re, it is Osiris." The same word *št* is also used to describe the cult image of the god in the innermost sanctuary of the temple, where it was kept hidden from the gaze of all but the highest priests. The text itself, as well as its use of the word *št*, clearly indicates that myths were sacred knowledge that was kept secret and that was, at least officially, known only to specialized priests. The very few examples of officially recorded myths that we do have are indeed found in places that were inaccessible to the vast majority of the population, hidden as they were in the innermost parts of the temples or in the royal tombs in the Valley of the Kings at Thebes. Even in the funerary iconography mentioned above, the vast array of often

complex mythical symbols reveals religious truth to those who know, as much as it conceals it from those who do not.

Even taking into account this secret nature of mythological knowledge, however, it is probably fair to say that in ancient Egypt, religious truth or dogma was not primarily expressed in the form of mythical narratives, but rather in the form of hymns and rituals and of funerary texts and representations, which served to guide and protect the deceased on the journey to the next world. This being so, it would not be very practical to give too narrow a definition of myth when dealing with Egyptian religion. For our purposes we will therefore take a pragmatic view and, disregarding its narrative aspect, define myth as a statement that seeks to explain social reality and human existence in symbolic terms by referring to a world outside the human world and to events that happen in a time outside human time but that makes the present situation meaningful and acceptable and provides a perspective on the future. Fortunately, such mythic statements are plentiful in all sorts of Egyptian texts.

There is only one brief period in Egyptian history that was almost entirely free of myths. It was toward the end of the Eighteenth Dynasty, when the pharaoh Akhenaten (Amenhotep IV) introduced a religion that exclusively worshiped the sun-god "in his identity of the light of day which is in the sun-disk," often abbreviated as the Aten, the Sun-Disk. While even monotheistic religions are not necessarily free of myths, Atenism lacks them, even to the extent that it has been described as antimythical or hostile toward myth. Not only are there no interactions between deities, but there is no mythical past or mythical abode of the dead either. Creation exists only as an actual, daily phenomenon; the Aten imbues all of nature with life through the light of his rays. (See "The Hymn to Aten: Akhenaten Worships the Sole God" later in this volume.)

For most of their long history, however, the Egyptians worshiped hundreds of deities, many of whom were of no more than local significance, and mythical statements concerning the relationships between these deities are equally numerous. It is impossible to deal with this embarrassment of riches within the limited

space of this article, and we will therefore concentrate on the great, universally recognized deities of ancient Egypt and on the central myths about their origins and functions.

CREATION MYTHS

From the earliest times, the Egyptians speculated about the origin of the universe and of the world in which they lived, and the resulting cosmogony belongs as much to the domain of mythology as to that of theology or even philosophy. Speculation on this subject mainly originated in the great religious centers of Heliopolis (biblical On), Memphis (biblical Noph, modern Mit Rahina), Hermopolis (modern al-Ashmunein), and Thebes, and the various theologies emerging from these centers have often been viewed as competing with each other. However, such a view is hard to reconcile with the persistent Egyptian tendency toward harmonizing; each school of thought further elaborated the train of speculation of the other, adding its own insights to it rather than replacing it.

Heliopolitan Theology

The cosmogony that provided the basis for all later speculations was worked out by the Heliopolitan school and centers around the Ennead, a group of nine deities: Atum; Shu and Tefnut; Geb and Nut; Osiris; Isis; Seth; and Nephthys. These gods all emanate from the great primeval creator god, Atum, and are forms or "developments" (*hprw*) of Atum. They also represent the mythical genealogy of a tenth god, Horus, who is embodied in the living pharaoh. In the beginning the universe consisted of an undifferentiated watery substance called Nu(n), the Primeval Waters, often personified as a god. In these waters, and to a certain extent identical with them, is Atum, the creator god, whose name probably means "he who makes complete," "finisher." Atum floats in the Primeval Waters in an inchoate state, as "he who is in his egg," and creation begins with the differentiation of this "seed" of undeveloped matter from the Primeval Waters surrounding it. To visualize this beginning of creation, the Egyptians often used the mythical image of a Primeval Mound emerging

from the Waters, an image that was familiar to them from the annual recession of the waters of the Nile at the end of the inundation season. This Primeval Mound, which in the Heliopolitan version of the creation myth is identical to the sacred precinct of the temple of Heliopolis, is at the same time a manifestation of Atum himself and the place where Atum begins to "create" or "develop" himself (*hpr ds.f*). This process of self-generation brings about the gradual unfolding of undifferentiated unity into the differentiated diversity of the world as we know it: the elements of nature; the complementarities of life; and social institutions.

The first stage in Atum's self-generation is the creation of a void, realized as the god Shu, and of his female counterpart, Tefnut; Egyptian texts often call this first pair the Twins. Atum, being all alone, is an androgynous deity, and the first element of diversity to develop out of this unity is the differentiation of male and female. In mythological terms this event is expressed as the result of Atum's self-impregnation: Atum "produced orgasm and a drop (of semen) fell into his mouth"; then he "sneezed Shu with a sneeze of his mouth (other texts mention Atum's nose) together with his sister Tefnut," and he imbues them with his "life-force" (*k'*, pronounced ka). Thus, by sneezing, Atum produces the air on which all life depends; at the same time, the creation of Shu and Tefnut, although they have not themselves been "conceived in conception" and "formed in the womb," sets in motion the normal transmission of life-force from one generation to the next.

The development of diversity continues with the creation of another pair, the vault of the sky and the earth, which isolates the void from the Primeval Waters surrounding it. This is the next generation of gods, consisting of Shu and Tefnut's children, the earth-god Geb and the sky-goddess Nut. The gender of these deities reflects the fact that in Egypt the earth is fertilized not by rain from the sky but by the Nile, which springs from the earth. The mythical image chosen for this stage of the creation is that of Shu separating Geb and Nut by standing with his feet on the earth and supporting the sky with his arms. (See fig. 1.) Geb and Nut together form a permanent boundary between the newly created world and the Primeval Waters that sur-

round it, and the air confined within it enables Atum to manifest himself in a new form, that of his "Sole Eye," the sun-god Re. Thus the first sunrise, in many ways the most crucial moment of creation, comes about, and this necessitates the differentiation of time into two complementary aspects called *nhh* and *dt*, for which the translations "Eternal Recurrence" and "Eternal Sameness" have been coined. These two concepts are linked with two "names" or "identities" of Shu and Tefnut, Life (*nh*) and Order (*m't*); the latter is often represented as a goddess in her own right (Ma'at) who, like Tefnut, is called "daughter of Re (or Atum)." Ma'at represents the perfect, stable order of existence that governs every aspect of the world as we know it, from the laws of nature to the rules of human social life. Order lasts unchangeable forever, in Eternal Sameness. At the same time, Life is the Eternal Recurrence of the Sun, which rises and sets daily, and of all human beings, who are born and die only to be reborn in the next generation; all life is subject to this eternal cycle of death and rebirth, which is governed by Life's twin, Ma'at.

The self-development of Atum, which so far has proceeded from his all-encompassing unity, via the inseparable duality of the twins Shu (Life) and Tefnut (Order), to the true duality of the separated couple Geb and Nut, now reaches its next stage: that of plurality. Geb and Nut give birth to Osiris, Seth, Isis, and Nephthys, "from one womb, (one) after the other, and they (in turn) give birth to their multitudes upon earth." Plurality also involves more complex social relationships. The four children of Geb and Nut are organized into two pairs. Osiris and Isis are the harmonious couple who represent the fertility of the earth and of humankind as governed by Order. Seth and Nephthys, on the other hand, represent the opposite. Seth's arrival marks "the beginning of conflict," the element of confusion and disorder that is also part of everyday life. Seth is not lacking in virility, but he carries it to excess by breaking the boundaries of regular sexuality laid down by Order; he commits adultery and is often described as an aggressive homosexual. His virility is counterproductive; it results in infertility. Nephthys, his spouse, is usually described as a childless woman, or even as a "would-be woman without a vagina," who



Fig. 1. Painting of Shu separating Geb and Nut, on a Twenty-first Dynasty coffin from Thebes. The coffin is now in the Egyptian Museum, Turin.

can play the role of a wet nurse but cannot give birth to children of her own. If Osiris represents the fertility of the earth, Seth conceptualizes the unpredictable, destructive forces of nature, such as thunder, storm, and rain. Seth also brings death into the world by murdering Osiris. Since Seth, like all the other members of the Ennead, ultimately emanates from Atum, these negative aspects, including death itself, also belong to the created world and are subject to Ma'at, the Order created by Atum. And because Order not only equals Eternal Sameness but also governs Eternal Recurrence, Atum's creation includes not only death but rebirth.

At Heliopolis itself, the nine gods (Ennead) consisting of Atum and his "developments" (*hprw*) could be further extended by giving separate names to various aspects of Atum that play a significant role in the process of creation. Thus Atum's sexual excitement, or libido, which caused him to masturbate, could be conceptual-

ized as the goddess Hathor, and his hand and his penis as manifestations of Hathor, namely the goddesses Ius-a'as and Nebethetepet. The intellectual forces causing Atum to develop himself were likewise conceptualized as gods. Heka is his magical or creative power; Sia, his perception, which enabled him to form an image of creation in his mind; and Hu, his authoritative word, with which creation began.

Memphite, Hermopolitan, and Theban Theogonies

The idea of creation through the spoken word was further worked out in Memphis. Here the Primeval God manifests himself first materially as Tatenen, the Primeval Mound, then intellectually as his "heart and tongue," embodied in the god Ptah, the divine craftsman, who is able to translate a concept of creation in his mind into its physical realization, like a sculptor who trans-

forms a block of stone into the statue that originally existed only in his mind.

In some early texts, the Primeval Waters are subdivided into four aspects of the undifferentiated state of the universe before creation; these are the infinite Flood, the Waters, Darkness, and Chaos. At Hermopolis these four aspects are represented as four like-named divine couples, the Ogdoad (Eight Gods) of Hermopolis. "Chaos" is sometimes replaced by another name, Amun, "the Hidden," and his female counterpart, Amaunet. These eight primeval gods are viewed as active forces in the creation process, as "the fathers and mothers . . . who created Atum."

In New Kingdom Thebes, Amun was singled out as the great creator, and in the form Amun-Re became the great state god of the Egyptian empire. Theban theologians then took Heliopolitan and Memphite cosmogony one final step further. Amun does not just develop himself, like Atum, resulting in a creation that is a manifestation of its creator. Rather, he is viewed as a transcendent god who exists independent of his creation; Amun "began development when nothing existed, yet the world was not empty of him in the beginning"; he is the hidden, incomprehensible cause of creation.

THE MYTH OF OSIRIS

The complex of mythical statements that we habitually call the myth of Osiris centers around three main events: the murder of Osiris by his brother Seth; the posthumous conception and birth of Osiris's son Horus; and the conflict between Horus and Seth. Although these events are clearly related, they are often treated separately in Egyptian texts. The slaying of Osiris at the hand of Seth is usually avoided, and when it is mentioned, this is done with the utmost discretion, using evasive phrases like "the evil that was done to him." Because most of our sources derive from a funerary context, it is not surprising to find that the texts concentrate not on the death of the god, but on his resurrection. For a continuous account of this episode, we have to rely on classical authors such as Plutarch and Diodorus Siculus.

In Plutarch's version, *De Iside et Osiride*, Osiris ruled Egypt as a beneficent king, showing the Egyptians how to grow crops, establishing their laws, and teaching them how to worship the gods; he also went abroad to civilize the rest of the world. Meanwhile his brother Typhon (= Seth) and his gang conspired against him, and when Osiris returned, Seth secretly measured the body of Osiris and had a beautifully decorated chest made to fit his body exactly. He brought it with him to a banquet, and when the gods expressed their admiration, he promised them that whoever would lie down in it and show that he fitted it would be given the chest as a present. Of course only Osiris fitted it, and once he was inside, Seth and his gang slammed the lid on and locked it, took it to the Nile, and let it drift away to the sea.

When Isis heard of this, she mourned Osiris and went looking for the chest, which she finally found at Byblos (modern Jubayl) in Phoenicia. But after she had brought it back to Egypt, Seth managed to get hold of Osiris's body again and cut it up into fourteen parts, which he scattered all over Egypt. Then Isis went out to search for Osiris a second time and buried each part where she found it (hence the many tombs of Osiris that exist in Egypt). The only part that she did not find was the god's penis, for Seth had thrown it into the river, where it had been eaten by a fish; Isis therefore fashioned a substitute penis to put in its place. She had also had sexual intercourse with Osiris after his death (see fig. 2), which resulted in the conception and birth of his posthumous son, Harpocrates, Horus-the-Child. Osiris became king of the netherworld, and Horus proceeded to fight with Seth over the inheritance of his father, both on the battlefield and in court, and he finally triumphed over Seth.

There can be no doubt that Plutarch's version is on the whole genuinely Egyptian, even though some details appear to be at variance with the Egyptian sources. For example, Egyptian documents state that the penis of Osiris was successfully retrieved and buried in Mendes. The most complete Egyptian version of the myth is provided by an Eighteenth Dynasty stela in the Louvre with a hymn to Osiris, in which the narrative elements are embedded in a typically Egyptian series of laudatory phrases that begin with:



Fig. 2. Wall relief of Isis conceiving Horus, in the Temple of Hathor, Dendara, Roman period. EBERHARD OTTO, *OSIRIS UND AMUN: KULT UND HEILIGE STÄTTEN* (1966)

Hail to you, Osiris,
Lord of Eternal Recurrence, King of the Gods,
Manifold of names, holy of developments,
Mysterious of forms in the temples!

After a long series of similar phrases, including an enumeration of the chief cult places of Osiris and praise of his benign rule upon earth, the text continues:

His sister (Isis) protected him,
She who repels his enemies,
Who stops the deeds of the Brawler (Seth)
By the effectiveness of her speech,
.....
Who searched for him (Osiris) without wearying,
Who went round this land lamenting,
Not resting until she had found him,
Who made a shade with her feathers,
And created air with her wings,
Who rejoiced when she revived her brother,
And raised the inertness of the Weary One,
Who received his seed and bore the Heir
(Horus),
Who raised the lad in solitude,
Unknown the place where he was kept,
Who introduced him in the Hall of Geb
When his arm had become strong.
The Ennead was overjoyed:
"Welcome, Son of Osiris,
Horus, stout of heart, triumphant one,
Son of Isis, Heir of Osiris!"

.....
Horus was found justified (in his struggle against Seth),
The office of his father was given to him,
He came out crowned by the command of Geb,
He received the rule of the Two Shores (Egypt).

All the essential features of the myth are present in this hymn, except the actual murder of Osiris. Isis protects Osiris against any further onslaught by Seth, she searches for his body, and when she has found him, she revives him and conceives his child, whom she raises in a secret place (in the marshes of the Delta). When Horus is old enough, she introduces him to the Ennead, presided over by Geb, who vindicates his claim to the throne against Seth and installs him as ruler of Egypt.

The myth of Osiris and the conflict of Horus and Seth are the subject of many texts, including a story called *The Blinding of Truth by Falsehood*, which resembles a fairy tale in that it displays many motifs familiar from folktales all over the world. The antagonists are here called Truth (Osiris) and Falsehood (Seth). Falsehood has blinded Truth and then orders his servants to abduct Truth and cast him to the lions. Truth manages to persuade the servants to disobey their orders and hide him instead. Truth is found by a lady (Isis) who falls in love with him, and

they have a son (Horus). Once the boy has grown up, he learns who his father is and sets out to avenge him. He takes Falsehood to the tribunal of the Ennead; Truth and his son are justified, and Falsehood is blinded.

A much more elaborate treatment of the conflict can be found in a series of tales, known as *The Contendings of Horus and Seth*, recorded in a Ramesside papyrus. This document also contains other literary compositions, including love poetry, and may, like them, have been intended primarily for entertainment. The events take place in the presence of the Ennead, this time under the chairmanship of Re-Atum himself. The gods are divided, some of them being on the side of Horus, others on the side of Seth. Even Isis, although strongly supporting her son, never distances herself completely from Seth, who is after all her own brother. After each contest Horus is proclaimed victor, but Seth keeps challenging Horus, so that their dispute goes on for eighty years.

In the initial court session, Isis speaks out on behalf of her son, but Seth, who while quite willing to stand up against Horus, is unable to cope with Isis and refuses to participate in the proceedings so long as Isis is a member of the tribunal. The Ennead therefore retreats to a secluded island, and the god Nemty, the ferryman, receives strict orders not to bring across any woman who looks like Isis. Isis then transforms herself into an old woman and pretends to be carrying some food for her young son, who is ostensibly on the island tending some cattle. (The word "cattle" is often used as a metaphor for "humanity" and in Egyptian sounds the same as the word for "office.") At first Nemty refuses to ferry her across, but he is eventually bribed into it with a gold ring. Once on the island, Isis changes herself into a beautiful young woman, and when Seth sees her, he "desires her very badly" and offers his services. Isis then tells him that she is seeking his help against a stranger who has beaten her son and stripped him of the "cattle" that he had inherited from his father. Seth readily agrees that this is outrageous, and when Isis reports this to the Ennead, they rule that his own words have condemned Seth and grant the office of Osiris to Horus. As in the hymn on the Louvre Stela, it is the "effectiveness of her speech" that enables Isis to thwart the at-

tempts of Seth. Nemty is severely punished, and gold, the cause of his disobedience, becomes a religious taboo in his city.

Seth does not accept the verdict of the Ennead, however, and the fight continues. In the episodes that follow, violence plays an important role; however, most of the contests between the two rivals are more in the nature of tricks or practical jokes that they play on one another. Perhaps the most famous episode involves a homosexual encounter between the two; allusions to this myth are found as early as the Pyramid Texts, and it is also told in a fragmentary Middle Kingdom text that may in fact have been part of a magical spell (the semen of Seth being a well-known designation of the poison of a snake or scorpion). The homosexual acts of the two gods have a negative effect; Horus's eye starts dripping, and as a result, it becomes small and loses its strength, whereas Seth temporarily loses his virility. In many later texts, particularly in the Greco-Roman period, these effects are ascribed to a fight between the gods during which they wound each other, Horus losing an eye and Seth his testicles. Thoth, the god of learning and writing who acts as secretary to the Ennead and who is also a moon-god, plays the role of arbitrator in the conflict; he reconciles Horus and Seth and "fills the Eye of Horus." (For this reason every offering made to the gods, whatever its actual substance, is called Eye of Horus.) This myth refers to the waning and waxing of the moon, which is the result of the "meeting of the Two Bulls" (Horus and Seth), as some late texts call it.

The homosexual episode as told in *The Contendings of Horus and Seth* also serves to explain the relationship between Thoth and the moon. Re-Atum orders Horus and Seth to stop quarreling, and Seth invites Horus to a party at his house. During the night, after they have both gone to bed, Seth inserts his erect penis between Horus's thighs in an attempt to assert his dominance over Horus by treating him like a woman. But Horus puts his hands between his thighs and catches Seth's semen, which he shows to his mother. Isis cuts off Horus's hands, throws them into the water, and makes him a new pair of hands. Then she makes him masturbate into a pot and spreads Horus's semen on the lettuce growing in Seth's garden. Seth eats the lettuce

and becomes pregnant with the semen of Horus. The two rivals then go to the tribunal, and Seth claims his right to the inheritance of Osiris on the basis of his supposed dominance over Horus. When Horus denies that dominance, Thoth summons Seth's semen to appear, and it answers him from the water. Then Horus's semen is summoned, and it appears from Seth's forehead in the form of a golden disk (the moon). The disk is promptly seized by Thoth, who puts it on his own head. Thus Thoth becomes the moon-god.

Even after this episode, the conflict is not yet over; in the end, Osiris himself has to write a letter to the Ennead, reminding them that only he is able "to create the barley and emmer which feed both the gods and their cattle (humankind)" and instructing them to give his office to his son Horus. Only then does Seth give up fighting Horus; the two gods "fraternize so as to cease quarrelling" and are pacified at last. Seth is given to Re as an assistant so that "he can thunder in the sky and be feared"; indeed, he is often depicted in the bark of Re warding off the Apopis snake, the monster of chaos that tries to overthrow Re when he rises in the morning. (See fig. 3.) Thus the unruly, aggressive Seth is given a positive function in the maintenance of cosmic order.

The myth of Osiris contains many features that cannot be discussed here. The myth's essence can perhaps be said to lie in the nature of the gods involved and in their relationships to one another. We have already seen that the final development of the creator god Atum did not consist of another male-female couple but of two brothers, each with his female companion. The

duality of this pair, which is made visible in the conflict between the two, is one of life and death. Osiris is life as we know it, life that incorporates death; without death there can be no renewal of life. Seth himself does not die—although as the "loser" in the conflict, he often symbolizes the sacrificial animal in rituals—but he has brought death into the world. The new life that arises from death is Horus, who is none other than the reborn Osiris. Osiris and Horus are two forms of one and the same god; Horus is both the living "son" and the reincarnation of his dead "father" Osiris. His legitimacy as ruler of Egypt rests on this genealogy. As the "tenth god" of the Ennead he is the final, living manifestation of the creator god Atum, embodied in the reigning pharaoh, who is the representative of the gods among humankind.

The myth of Osiris and Horus reflects and hallows the institution of divine kingship; the legitimacy of the reigning king also depends on the principle that he is both the living "son" (even if this were not always literally the case) and the immediate divine reincarnation of his dead predecessor. This idea is expressed most clearly in a series of New Kingdom temple reliefs and inscriptions known as "The Birth of the Divine King," in which the creator god (in this case Amun), who is none other than his earthly embodiment, the ruling pharaoh, unites with the queen in order to engender his son and legitimate heir. When a new king is crowned, "the Ennead gather together in order to give him the jubilees of Re and the years of Horus as king" (coronation text of Horemheb), and when an enemy attacks Egypt, he is unsuccessful

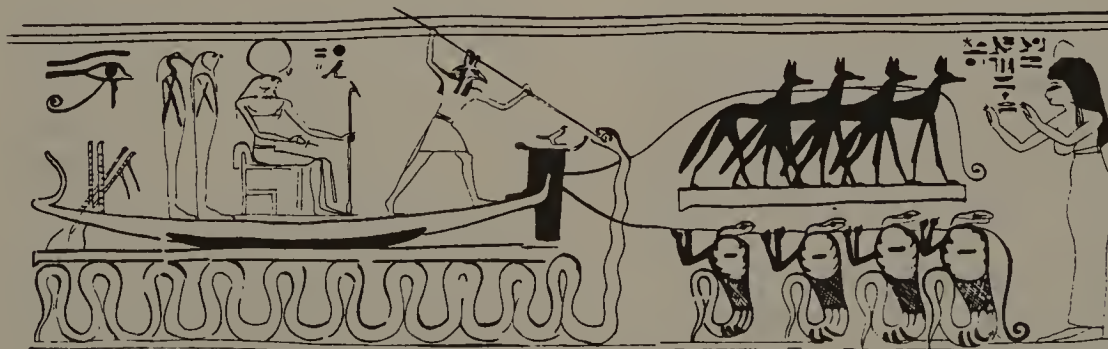


Fig. 3. Seth warding off the Apopis snake, as shown on a Twenty-first Dynasty papyrus, now in the Egyptian Museum, Cairo. S. D'AURIA ET AL., *MUMMIES AND MAGIC* (1988)

ful because "he has been contested in Heliopolis, and the Ennead found him guilty of his crimes" (Israel stela of Merneptah). What applies to the world of the gods and to the institution of divine kingship applies also to all human beings, for here too the transmission of life-force (*k'*) from father to son implies the transmission of the father's office to the son and guarantees the latter's legitimacy. Thus the system of positional succession, as described by anthropologists, is hallowed by a mythical charter.

RE AND OSIRIS

Both the myth of Osiris and the creation myths have important implications for the funerary beliefs of the Egyptians. Whether king or commoner, the deceased's son succeeds his father as the new Horus, and the deceased himself becomes an Osiris. Just like Osiris, he is not really dead but rather enters a different mode of being; his death merely marks the transition to a new life in the underworld. This new Osirian existence can be viewed not only as a static mode of being, in Eternal Sameness, but also as an eternal cycle of death and resurrection, in Eternal Recurrence. This cycle is exemplified by the sun's journey along the sky, and countless funerary texts identify the deceased with the sun-god. The sun-god's daily course is described as a life cycle. In the morning Re is born from the womb of his mother, the sky goddess Nut, and he starts his life in the eastern horizon as a young child; in the evening he has become an old man, who dies when he sets in the western horizon and enters the underworld, only to be reborn the next morning. This cycle is viewed as a perpetual repetition of the creation, the maintenance of which is the main objective of the daily rituals in the great state temples of Egypt. When Re enters the underworld, he becomes Atum and returns to the Primeval Waters with which he was united before he began to develop himself, and in the morning he reemerges from them.

In the course of Egyptian history, and especially from the New Kingdom on, the myths of Osiris and Re were linked; when the sun-god dies and enters the underworld in the evening,

he too becomes Osiris. In the middle of the night, Re encounters the body of Osiris, which rests there in profound darkness, motionless and seemingly dead; then the two embrace each other and become one god. As the litany of Re expresses it: "Re has come to rest in Osiris and Osiris has come to rest in Re." (See fig. 4.) Through this union Osiris is revived by the rays of Re and becomes the sun-god's nocturnal embodiment; at the same time Re, who had "died" and entered the realm of the dead, is imbued with the life-force of Osiris; Re becomes "Horus in the arms of his father Osiris," and these arms lift him out of the Primeval Waters in the morning, when he is reborn as Re-Harakhty, or "Re-Horus of the Horizon." The unification of Re and Osiris is often called the unification of their

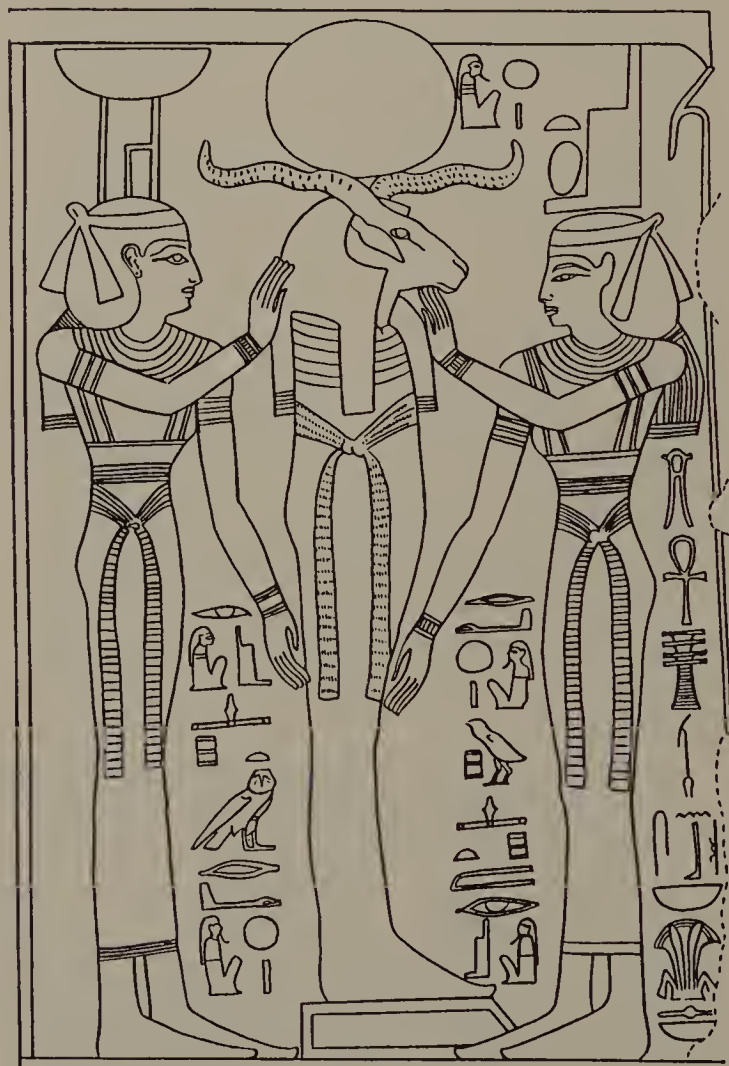


Fig. 4. Painted relief of Re and Osiris united, in the tomb of Queen Nefertari, Nineteenth Dynasty. A. PIANKOFF AND N. RAMBOVA, *THE TOMB OF RAMESSES VI* (1954)

bas, or manifestations, which are given the names of Shu and Tefnut, the Twins who were the first development of Atum at the beginning of creation. Shu and Tefnut also represent Eternal Recurrence (Re) and Eternal Sameness (Osiris), neither of whom can exist without the other, as this myth makes abundantly clear.

HUMANITY

In the creation accounts that we have discussed so far, not a word has been said about the origin of human beings. Egyptian texts that deal with the creation of humanity are very sparse; the only information we obtain is that people originated from the tears of the sun-god. Often this is explained in a typically Egyptian fashion, using what might be called “sacred etymology,” as the words for “weep” (*rmj*), “tears” (*rmwt*), and “people” (*rmt*) sound very similar. There is more to it than that, however, for some texts seem almost deliberately to avoid this play on words by using completely different terms; a Ramesside text in the temple of Mut in Karnak says that the Creator “wept (*bjf*) all humankind (*bw-nb*) from his eyes, while the gods developed from his mouth.” The exact notion that lies behind this remains unclear; perhaps there is a connection with ancient theories about the origin of semen, which was thought to derive from the brain, or more specifically from the region around the eyes. A late text explains that Re-Atum wept because his Eye (represented as a goddess) had left him; Shu and Tefnut went after her, and when they brought her back, she became angry because he had replaced her with another eye. Because of this the creator wept, and “that is how humanity (*rmt*) developed from the tears (*rmwt*) which came from my Eye.” He then appeased her by promoting her to be ruler of the entire land.

This is one of a very complex group of mythical statements about the Eye of Re. One version deals with both the original and the present situation of humanity within the created world. This myth is recorded in the *Book of the Cow of Heaven*, which is inscribed in a number of royal tombs of the later New Kingdom. In the beginning gods and human beings live together

in one undivided world governed by Re. This god has become old, however, and his subjects have started to rebel against him. Re summons his Eye as well as Nun (the Primeval Waters) and the Ennead to come to his palace and tells them that he is contemplating annihilating all of his creation and returning into the Primeval Waters from which he came forth at the beginning of time because “humanity which has developed from my Eye has plotted against me.” But the gods urge him to stay on as ruler and to send out Hathor, his Eye, in order to kill the rebels, who have fled into the desert. This happens, and Hathor, who has assumed the form of a fierce lioness, kills many people. When Re sees that not only the rebels but all other human beings are going to be killed as well, he devises a plot to stop the massacre. He makes his servants brew seven thousand jugs of beer, which is then mixed with red ochre from Elephantine, so that it becomes as red as human blood. This beer is poured out over the fields during the night, and when Hathor wants to resume her onslaught in the morning, she drinks from the beer and gets drunk. She fails to notice the people and returns to her father. Thus a small number of people survive, but when they promptly start to fight each other, Re has had enough. Nun orders the sky goddess Nut to transform herself into a cow, and gives Shu eight assistants to help him support this Heavenly Cow so that Re can sit on her back with his divine entourage and retire from his duties. (See fig. 10 in “Ancient Egyptian Religious Iconography” later in this volume.) The moon-god Thoth is summoned and ordered to replace Re at night, when Re illumines the underworld with his rays.

The part of the text that describes the punishment of humankind and the way its complete destruction is prevented can be seen as an etiological myth that explains the diseases which invariably spread over Egypt at the end of the dry season, during the heat of summer. The end of this period is marked by the advent of the annual inundation of the Nile, which brings new fertility to the parched soil. The first water of the inundation is red because of the ferruginous earth that it carries from the Ethiopian mountains, hence the ochre from Elephantine (the mythical location of the source of the inundation) that is mixed through the beer. The inunda-

tion of the Nile puts an end to the decimation of the people caused by the heat of the raging Eye of Re. The inundation coincides with the summer solstice when, according to a related myth known best from Greco-Roman sources, the Eye of Re retreats to Nubia. On a different level, the myth of the Cow of Heaven explains how paradise was lost and how gods and people became separated; only after death, when man enters the underworld, will he join Re and the other gods again.

The myths discussed in this essay deal with the creation of the universe and humanity's position in it. They explain the complementary aspects of life (male and female, order and confusion, conflict and reconciliation, fertility and infertility, life and death, and so on). They also provide a divine charter for social institutions (positional succession, divine kingship). All of these elements are reconciled and made meaningful by myth. Perhaps the importance of myth in Egyptian custom is nowhere better illustrated than in the way it is utilized in times of distress. When people are ill, selected mythical stories are told as part of medical treatment to reassure them of their own secure place in the cosmic and social orders. Thus equipped with knowledge and truths, they are able to continue to prosper and live at peace with the world that surrounds them.

BIBLIOGRAPHY

Introduction

Readers may benefit from the succinct surveys of the various theories and definitions of myth in the following books: THEODORUS P. VAN BAAREN, *Menschen wie wir: Religion und Kult der schriftlosen Völker* (1964); ANNEMARIE DE WAAL MALEFIJT, *Religion and Culture: An Introduction to Anthropology of Religion* (1968); and HAROLD FALLDING, *The Sociology of Religion: An Explanation of the Unity and Diversity in Religion* (1974). Important insights can also be gained from the undogmatic but highly instructive approach of G. S. KIRK, *Myth: Its Meaning and Functions in Ancient and Other Cultures* (1970).

Studies of Egyptian myth include the following: SIEGFRIED SCHOTT, *Mythe und Mythenbildung im alten Ägypten* (1945); JAN ASSMANN, "Die Verborgenheit

des Mythos in Ägypten," *Göttinger Miszellen* 25 (1977), and "Die Zeugung des Sohnes: Bild, Spiel, Erzählung und das Problem des ägyptischen Mythos," in J. ASSMANN, W. BURKERT, and F. STOLZ, *Funktionen und Leistungen des Mythos: Drei altorientalische Beispiele*, *Orbis Biblicus et Orientalis*, vol. 48 (1982); and for a critical review of various approaches, and especially of Assmann's, see JOHN BAINES, "Egyptian Myth and Discourse: Myth, Gods, and the Early Written and Iconographic Record," *Journal of Near Eastern Studies* 50, no. 2 (1991). Most of the essential literature on Egyptian myth is quoted in these studies.

Creation Myths

Here I have benefited greatly from the extremely lucid study by JAMES P. ALLEN, *Genesis in Egypt: The Philosophy of Ancient Egyptian Creation Accounts* (1988). A more traditional survey, with a much wider selection of Egyptian texts, is SERGE SAUNERON and JEAN YOYOTTE, "La Naissance du monde selon l'Égypte ancienne," in *La Naissance du monde*, *Sources Orientales* 1 (1959). Further aspects are treated in HERMAN TE VELDE, "The Theme of the Separation of Heaven and Earth in Egyptian Mythology," *Studia Aegyptiaca* 3 (1977), and "Relations and Conflicts Between Egyptian Gods, Particularly in the Divine Ennead of Heliopolis," in *Struggles of Gods: Papers of the Groningen Work Group for the Study of the History of Religions*, edited by HANS G. KIPPENBERG (1984). The relationship between Amun and the Ogdoad of Hermopolis was studied by KURT SETHE, *Amun und die Acht Urgötter von Hermopolis: Eine Untersuchung über Ursprung und Wesen des ägyptischen Götterkönigs* (1929). SUSANNE BICKEL, *La cosmogonie égyptienne avant le Nouvel Empire*, *Orbis Biblicus et Orientalis* 134 (1994), offers a new detailed treatment and synthesis.

The Myth of Osiris

Plutarch's account is available in J. GWYN GRIFFITHS, *Plutarch's "De Iside et Osiride"* (1970). An English translation of the Louvre Hymn to Osiris may be found in MIRIAM LICHTHEIM, *Ancient Egyptian Literature: A Book of Readings*, vol. 2 (1976), which also contains translations of *The Blinding of Truth by Falsehood* and *The Contendings of Horus and Seth*. Important studies of the Osiris myth include: J. GWYN GRIFFITHS, *The Conflict of Horus and Seth, from Egyptian and Classical Sources: A Study in Ancient Mythology* (1960); HERMAN TE VELDE, *Seth, God of Confusion: A Study of His Role in Egyptian Mythology and Religion* (1967; 2nd ed. 1977); and EDMUND LEACH, "The Mother's Brother in Ancient Egypt," *Royal Anthropological Institute News* 15 (1976). Myths about the

moon have been collected by PHILIPPE DERCHAIN, "Mythes et dieux lunaires en Égypte," in *La Lune: Mythes et rites*, Sources Orientales 5 (1962). For the "Birth of the Divine King," see HELLMUT BRUNNER, *Die Geburt des Gottkönigs: Studien zur Überlieferung eines altägyptischen Mythos* (1964; 2nd ed. 1986). For the Coronation Text of Horemheb, see SIR ALAN GARDINER, "The Coronation of King Horemhab," *Journal of Egyptian Archaeology* 39 (1953).

Re and Osiris

There is no monograph on this subject, but the reader will find discussion and references in ERIK HORNUNG, *Conceptions of God in Ancient Egypt: The One and the Many*, translated by JOHN BAINES (1982).

Humanity

The latest edition of the *Book of the Cow of Heaven*, with translation and commentary, is ERIK HORNUNG, *Der ägyptische Mythos von der Himmelskuh: Eine Ätiologie des Unvollkommenen* (1982; 2nd ed. 1991). For the mythical complex of the Eye of Re, see HERMANN JUNKER, *Der Auszug der Hathor-Tefnut aus Nubien* (1911), and *Die Onurislegende* (1917); and KURT SETHE, *Zur altägyptischen Sage vom Sonnenauge das in der Fremde war* (1912).

Conclusion

For a case study of the application of myth in medical or magical texts, see JACOBUS VAN DIJK, "The Birth of Horus According to the Ebers Papyrus," *Jaarbericht Ex Oriente Lux* 26 (1979–1980).

SEE ALSO **Ethics and Piety in the Ancient Near East** (Part 8, Vol. III); **Ancient Egyptian Religious Iconography** (Part 8, Vol. III); **Theology, Priests, and Worship in Ancient Egypt** (Part 8, Vol. III); and **Ancient Egyptian Literature: An Overview** (Part 9, Vol. IV).

Ancient Egyptian Religious Iconography

ERIK HORNUNG

IN THE LANGUAGE OF RELIGION, words do not suffice. Long before writing was invented, religion operated with pictures and symbols. In Egypt, figurines, amulets, and the decoration on pottery and cosmetic palettes conveyed religious notions of prehistoric people in the fourth millennium BCE. In the absence of texts, however, the interpretation of these motifs is often difficult and controversial. Thus, the loosely connected scenes on vessels of the Naqada II period have been interpreted as sequences of burial rites, but this is not certain, and the ivory figurines, some bearded, others female, have inspired various explanations.

In the first centuries after the invention of writing, texts were still rare and always very brief; they were limited to short explanatory legends indicating the names of persons and places or the kind, quantity, and quality of products. In the annals of the early kings, pictorial information still predominated and so poses the same iconographic problems as those presented by prehistoric objects.

The elaborate decoration in the tombs of Old Kingdom officials was predominantly concerned with scenes of daily life and yields little in terms of religious iconography. For this we depend on the royal mortuary temples, with their depictions of divinities and rituals. Until the end of the Fifth Dynasty, the burial chambers of the pyramids were not decorated. Then, with King

Wenis (the "Famine Relief" comes from the causeway of his pyramid), began the Pyramid Texts; in hundreds of "Utterances," or spells, they speak of the death, burial, and protection of the king and of his resurrection in the beyond. These utterances are not accompanied by illustrations. Figurative amulets, too, were almost entirely lacking in Old Kingdom burials.

In the Middle Kingdom, tomb decoration and royal monuments were equally chary of pictorial information regarding religious phenomena. The Coffin Texts, however, the successors of the Pyramid Texts, sometimes add schematic representations of the beyond, and the minor arts, as well as the numerous stelae from Abydos (modern 'Araba al-Madfuna), are important iconographic sources. In addition, the incised decoration of magic ivories, which served to protect mother and child, offers the prototypes of many religious motifs current in later times.

The full flowering of iconography occurred in the New Kingdom (the Eighteenth through Twentieth dynasties) and continued into the Twenty-first Dynasty. At the very beginning of this epoch appeared the richly illustrated Books of the Netherworld, followed by the fully illustrated copies of the *Book of the Dead* and other religious papyri. At the same time, the walls of temples were being covered with ritual scenes, and pictorial motifs proliferated on scarabs and other seal amulets to the point where, in the

Ramesside period, even scenes from temple walls were adapted to the minor arts.

Within the New Kingdom, the Amarna period forms a divide in religious development and iconography. Many new motifs appeared, among them the sun-disk with rays ending in hands, the Ouroboros serpent, and the "Devourer" in the *Judgment of the Dead*, pictorial motifs preceded by corresponding textual formulations. The treasure of Tutankhamun, the iconography of which is still largely unstudied, is a major witness to the pictorial creativity of the New Kingdom.

In the Twenty-first Dynasty, painting on papyrus and coffins reached its high point, with a tendency to bold and often unique compositions. Here, pictorial information outweighed aesthetic quality and the role of texts was diminished. The new genre of "Mythological Papyri" emerged, drawing on a variety of sources (such as the *Book of the Dead* and the Books of the Netherworld) and stringing together pictures with very brief texts (fig. 1). This delight in images continued into the Libyan period (Twenty-second through Twenty-fourth dynasties). Only in the true Late Period (Twenty-sixth through Thirtieth dynasties) did the written word regain its dominance, and then even the ancient, still unillustrated Pyramid Texts were newly copied.

The well-preserved, richly decorated temples of Greco-Roman Egypt at Edfu (Idfu), Dendara (Iunet, ancient Tentyra), Kom Ombo, Philae, and elsewhere retained much of this pictorial heritage. From the Late Period on, Phoenicians

and Greeks distributed Egyptian motifs throughout the Mediterranean world, whence they began an active afterlife in the cultures of Europe.

THE WORLD OF THE GODS

The development of writing was paralleled by new forms of divine representation. The final prehistoric phase knew divine figures only in the form of animals, plants, and objects. A prime example is a slate palette from Girza with a cow-head encircled by stars, probably symbolizing a goddess of the heavens. Many other theriomorphic representations defy a classification distinguishing among symbols of the divine, the hostile, and the regenerative element. The first anthropomorphic image of a divinity, on a plaque of King Djer (First Dynasty), shows the typically armless body later used as the hieroglyphic determinative for "image." To the same Early Dynastic period belongs the famous sculpture of the "Town God" from Abydos (fig. 2).

At the same time appeared the "mixed form," in which a human body is surmounted by an animal head; this rapidly became the most distinctive type of divine representation and symbolized Egyptian divinities for the authors of the classical and Early Christian periods. (The form survives in Christian gospel illustrations and modern caricatures.) However, purely human and purely animal forms of divine representation continued to be used. From the Early Dynastic period, the Egyptians had a broad spec-

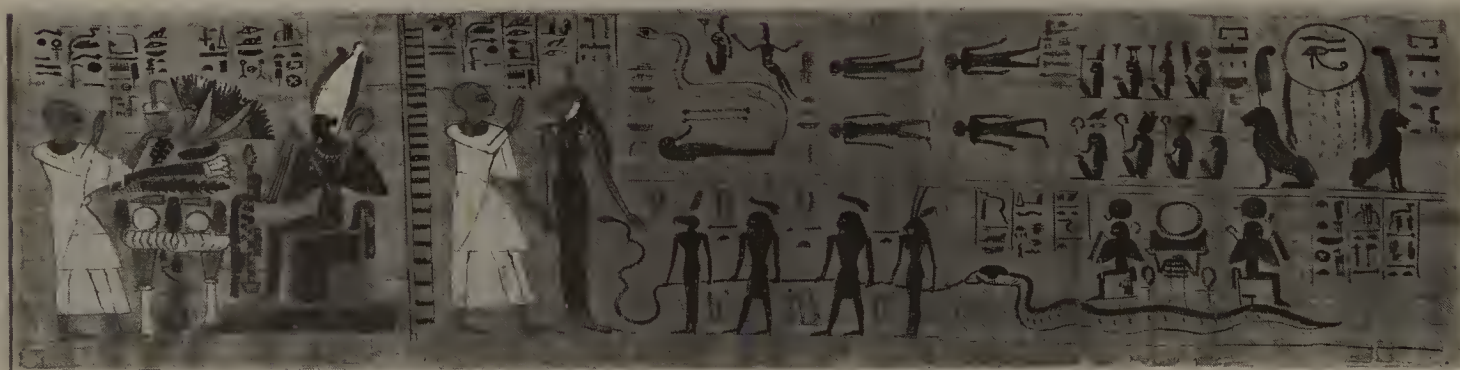


Fig. 1. The "Mythological Papyrus" of Djedkhonsefonkh with motives from various funerary compositions, circa 950 BCE, from Thebes. MINNEAPOLIS INSTITUTE OF ARTS



Fig. 2. Limestone statue of the "Town God" from Abydos, circa 2900 BCE. PHOTO COURTESY OF THE ARCHAEOLOGICAL INSTITUTE, ZURICH

trum from which to choose in representing their deities.

1. *Purely human form.* Human aspect was usual for cosmic deities from the Third Dynasty on (fig. 3). Later it was used for the Ennead to which belonged Atum, Shu, Geb, Osiris, Seth, and their counterpart goddesses. Of these only Osiris's fratricidal brother, Seth, was represented as an animal or in "mixed form." The purely human form was also conventional for fecundity figures, as well as for gods like Min and Ptah, goddesses like Neith and Ma'at, and many others. Shu, Neith, Isis, and Nephthys frequently bore their respective hieroglyphic symbols (feather, throne, etc.) on their heads.

2. *Purely animal form.* The Dynastic period linked up with the prehistoric traditions: Horus

appeared as a falcon; Sobek as a crocodile; Anubis as a jackal; Thoth as a baboon or ibis; and Hathor as a cow. Despite considerable efforts, the Seth animal remains unidentified, and doubtless belonged to the domain of the fabulous, along with the sphinx and the griffin.

The sacred Apis and Mnevis bulls assumed a special position, as they were always regarded as being the "living images" of divinities. In the Ramesside period, this type of reverence grew to the point where whole species were worshiped, as in the Late Period animal cults described by the classical authors.



Fig. 3. Third Dynasty anthropomorphic deity. The deity is shown wearing a knotted belt with a penis sheath and is holding a knife in his right hand. THE BROOKLYN MUSEUM, NEW YORK

Aside from the specifically divine animals, some embodied enemies and evil powers, while others represented the idea of regeneration, symbolizing the defeat of death through some aspect of their way of life. Snakes belonged to all three categories, as well as symbolizing time and eternity. The hedgehog was second only to the scarab beetle as a seal-amulet form, but it had no relation to the divine, serving solely in the domain of regeneration.

The cat had a role all its own. Its usual classification as a manifestation of the goddess Bastet does not pay justice to its more complex meaning. Not yet attested in the Old Kingdom, the cat appeared in proper names during the Eleventh Dynasty and became religiously significant in the early New Kingdom, when the sun-god himself appeared as the Great Cat who subdues his serpentine enemy, Apopis (fig. 4). The cat later took over the peaceful and mild aspect of Hathor, Mut, Sakhmet, Bastet, and other goddesses, while the lioness represented their wilder and dangerous side. According to a popular myth, the raging lioness was turned into a gentle cat, and this was the thought behind the countless cat statuettes and cat mummies offered by pious Egyptians of the Late Period.

Another animal that appeared relatively late is the horse, which accompanied the Hyksos into Egypt around 1650, evidently too late to be taken up in the Egyptian pantheon. Although it was never identified with a god, it assumed a place on scarabs and other small objects along with the other "royal" animals—the lion, bull, sphinx, and griffin—all symbolizing the triumphant king.



Fig. 4. Drawing from a papyrus in the British Museum of Re as a tomcat halving the Apopis serpent, circa 1250 BCE. DRAWING BY A. NIWIŃSKI



Fig. 5. Deities in "mixed form" in which a divine attribute substitutes for the human head. Drawing from a relief in a golden shrine of King Tutankhamun, circa 1325 BCE. EGYPTIAN MUSEUM, CAIRO

3. *Mixed form.* The principle underlying the mixed form was that a divine attribute or manifestation appeared in place of the head, while the body retained its human form (fig. 5). Usually, an animal head was placed on human shoulders: Horus with the falcon's head; Thoth with the head of an ibis; Sobek with a crocodile's head; Anubis with the jackal's head; and so on. It was only during the New Kingdom that the iconographically bold attempt was made to replace the head with an entire animal or object. For example, Osiris was provided with a symbolic Djed-column, and Re was given a solar disk as a head. During the Twenty-first Dynasty, this practice became even more popular, with whole scenes (such as the cow in the western mountain) or hieroglyphs replacing the head, as traditional aesthetic restraint yielded to the desire for pictorial information.

4. *Attributes upon the head.* Rather than replace the head, attributes or manifestations can be set upon it. This was the earlier mode for depicting insects, fish, plants, and objects. Nefertem thus bore a lotus blossom, Selkis a scorpion, and Neith her weapons. It was only during the New Kingdom and the subsequent periods that this method yielded to the mixed form. Egyptian divinities did not hold specific attributes in their hands; rather, they almost invariably bore the usual signs for "life" and

“power,” which they offered to the pharaoh and all human beings. Various crowns, scepters, and other symbolic paraphernalia were also used, and from the Amarna period, many goddesses were adorned with wings that highlighted their protective role.

5. *Reversed mixed form.* Another mode consisted of a human head with an animal or object serving as a body. Already on the Narmer Palette, a piece of land is personified by a human head. The familiar sphinx combined a lion's body with a human head and a royal headcloth or crown. The earth-god Aker appeared as a double

sphinx with two human heads. The tree goddess who offered the deceased food and water was a special case depicted in a wide variety of ways. Usually a woman's body and head emerged out of a tree, but the human element was sometimes reduced to a breast and an arm, while the tree was sometimes on her head. Representations of the daily course of the sun could similarly be reduced to a solar disk propelled by a pair of arms combined with female breasts.

6. *Standing upon animal attributes.* Divinities who stood upon their animal attributes or manifestations were typical in ancient near east-



Fig. 6. Wooden statue of Tutankhamun standing on a black panther, from the tomb of Tutankhamun, circa 1325 BCE. EGYPTIAN MUSEUM, CAIRO



Fig. 7. Composite divine figure surrounded by the Ouroboros, reconstructed from descriptions in a magical papyrus, circa 300 BCE. DRAWING BY A. BRODBECK

ern iconography. In Egypt this variety was reserved for Asiatic divinities accepted into the Egyptian pantheon during the New Kingdom. Analogous scenes and artifacts from the Valley of the Kings placed the pharaoh on a black panther (fig. 6) and Osiris upon a snake (*Book of Gates*), but in both cases perhaps only protection by the animal was meant, not the possession of animal attributes.

7. *Composite forms.* In the Late Period, the most diverse animal and human elements were combined into a single form. Antecedents were the hippopotamus goddess with crocodile tail (since the Middle Kingdom) and the late New Kingdom Devourer of the Dead, whose body was assembled from parts of the lion, hippopotamus, and crocodile (fig. 7). Just as hymns usually endowed a divinity with as many epithets as possible, so these depictions combined as many attributes as possible, not even stopping short at the monstrous. The most prominent example from the Late Period is the “pantheistic” figure of the previously known god Bes as creator of the world.

Some major divinities were portrayed in all of the above ways. Hathor sometimes appeared in pure animal form, as a cow stepping forth from the western mountains of Thebes, but sometimes also as a snake, lioness, tree nymph, or woman with a cow’s head; her normal iconography showed her as a woman wearing a pair of cow horns with a sun-disk between them. A “great” god possessed not merely a multitude of names, but also a multitude of manifestations, and his cult statues in temples need not be all identical. Usually hidden in the dark shrine of the innermost sanctuary, a small, portable statue in a barque, carried by the priests, was brought forth from the temple during important festivals (fig. 8).

The actual cultic ritual before the divinity was performed in the obscurity of the temple, with the priest acting as the king’s deputy. The wall decoration, however, portrays the pharaoh himself celebrating the ritual before the divinities. His divine origin, as son and image of the sun-god, made him the natural mediator between the world of the gods and of men. But his humanity constantly threw doubt upon this role, and Egyptian history reveals the search for other more effective mediators, such as sacred animals or deified patrons like Imhotep and Amenhotep, son of Hapu. The very failure of



Fig. 8. The barque of Amun carried by priests; relief on the sanctuary of Philip Arrhidaeus in the Temple of Karnak, circa 320 BCE. A. PIANKOFF AND N. RAMBOVA, *MYTHOLOGICAL PAPYRI* (1957)



Fig. 9. Drawing from a Twenty-first Dynasty papyrus of heaven and earth divided by Shu, the god of air and light. The papyrus was found at Thebes. EGYPTIAN MUSEUM, CAIRO

Akhenaten's attempt to establish himself as the sole prophet of his god Aten (Aton) led individuals to seek direct contact with the gods. Many private stelae from the worker's community at Dayr al-Madina record the intimate relations between man and god in critical situations. During the Late Period, countless figurines and mummies of sacred animals served the same end.

THE WORLD OF MYTH

Words were the medium of myth in ancient Egypt, in the rare form of lengthy tales (short allusions were the norm) or in mere allusions. In contrast to ancient Greece, pictorial representations of mythical events were very rare.

Among the exceptions are the myth of the pharaoh's divine birth, which was transmitted by several pictorial cycles in New Kingdom temples (mainly Dayr al-Bahri and Luxor). This myth depicts Amun's approach to the queen in the guise of the ruling pharaoh and the begetting of the heir, whose legitimacy thus cannot be questioned.

The creation of the world is not depicted in any known image. After the close of the New Kingdom, however, the depiction of Nut, the goddess of the heavens, was expanded to a scene showing Shu (the god of air and light) between Geb (Earth) and Nut (Heaven), which hinted at the most important event of the creation: the

separation of heaven and earth, which created space. Shu now supported the heavens so that they did not collapse upon the earth (fig. 9). Even older was the motif of the Celestial Cow, the "great swimmer" emerging from the Primeval Waters carrying the sun-god between her horns (fig. 10). An illustrated myth from the Amarna period described humankind's "rebellion" against the aging sun-god, its punishment by the god's fiery "Eye" (not by a flood, as in the Near East and in Genesis), and the god's retreat up to heaven on the cow's back after replacing the original paradise with the present imperfect world. Certain forms of architecture, such as the pyramid and the temple sanctuary, were conceived as images of the primeval hill appearing after creation. The sun-god on a lotus blossom (as a child or as the ram-headed night sun) was an image of the first emergence of shapes at the creation.

A myth known first from illustrations and only later from texts was that of the Solar Eye, or the Distant Goddess. New Kingdom pictorial ostraca portrayed the goddess as a raging lion who fled into the far desert. After Thoth, in the shape of a baboon, had pacified her, she returned with him to Egypt as a gentle cat and was acclaimed in her temple. With the actors appearing as animals, the myth was linked to the rich world of animal fables, which we know only from the New Kingdom ostraca; there cats served triumphant mice, thus documenting the "world up-

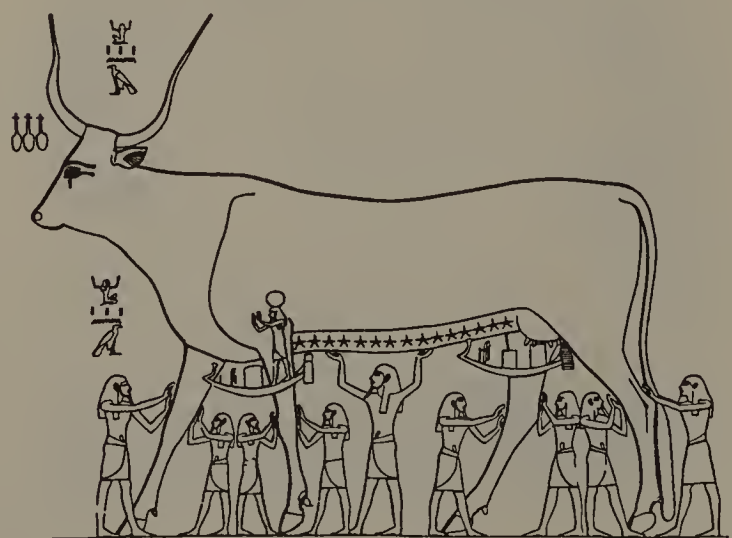


Fig. 10. The Celestial Cow, from a golden shrine of King Tutankhamun, circa 1325 BCE. EGYPTIAN MUSEUM, CAIRO

side down” theme so popular in the Ramesside period.

Although the myth of Osiris was told at full length only by Plutarch (around 100 CE), from early times it was often alluded to in Egyptian texts and pictures. (See the essay “Myth and Mythmaking in Ancient Egypt” immediately preceding this essay.) The revival of the slain god in nature was depicted in the shape of the “grain Osiris” used as a tomb offering. On a painted coffin of the Twenty-first Dynasty in Cambridge, England, this motif was connected with the course of the sun; the rays of the sun, set in motion by invisible forces, awaken Osiris to new life and make live plants grow from dead matter (see fig. 11). Already in the New Kingdom, in temples of Sety I (at Abydos and Thebes), other scenes showed how Isis, in the shape of a kite, conceived the Horus child upon the dead body of Osiris.

Isis raised the Horus child in the Delta marshes, the perfect hiding place, where she protected him from all dangers, especially snakes, scorpions, and crocodiles. The grown-up Horus left his hiding place to claim the heritage of his father, Osiris, which had been appropriated by his uncle Seth. These events underlay the frequent depictions of the Horus

child in the context of magic; as Horus was protected by the magical powers of his mother, Isis, so should every child be protected from dangers. The Amarna period created the youthful god Shed (“Savior”), or Horus-Shed, as the personified protector of human beings. In the Late Period, he became Horus on the Crocodiles, depicted on numerous magical stelae. On these stelae, picture and text once again complemented each other; to the magically effective image of the young Horus standing on crocodiles and holding serpents and scorpions in his hands belonged the textual magic of incantations directed against noxious animals and humans. (The “Metternich Stela” in the Metropolitan Museum in New York City is the best-known example of this genre; it is shown in “Witchcraft, Magic, and Divination in Ancient Egypt” later in this volume.)

Pictorial sequences showing the triumph of Horus over Seth depict the latter in the shape of a hippopotamus being harpooned by Horus. This combat had elements analogous to the triumph of the sun-god Re over his adversary Apopis, depicted as a serpent lying in the water before the barque of Re. In the New Kingdom, however, it was precisely Seth who with his spear forced the Apopis “dragon” to eject all the water he had swallowed, so that the barque of the sun-god might proceed. But in the Late Period, Seth and Apopis were viewed interchangeably as “the enemy.”

The iconography of the Osiris myth included the seated figure of Isis nursing the Horus child on her lap. Like the scene in the papyrus marshes, this image, too, invoked the protection of the mighty “Mother of God” (a frequent title of Isis) for the helpless divine child. The Christian “Mother of God” with child continued this pictorial tradition.

SKY AND NETHERWORLD

Appearing at the beginning of the New Kingdom, the *Amduat*, or *Book of What Is in the Netherworld*, ushered in the new literary genre of Books of the Netherworld. In contrast with the Pyramid Texts, these new royal mortuary texts were illustrated throughout. Their central theme was the nocturnal journey of the sun

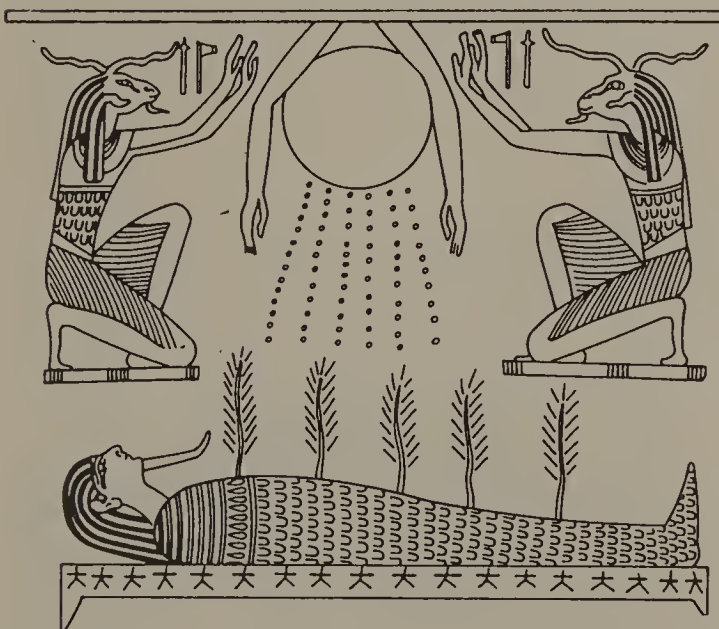


Fig. 11. Drawing from a coffin found at Thebes showing Osiris raised by the rays of the sun, circa 900 BCE. DRAWING BY A. BRODBECK

through the depth of the universe, envisioned in three distinct aspects: as the netherworld below the horizon; as the body of the sky-goddess Nut; and as the primeval waters (Nun). In psychological terms this journey was a descent into the world of the unconscious, with its plethora of images as manifested in modern dreams. At this depth the nightly regeneration of all being took place. (See the essay "Death and the Afterlife in Ancient Egyptian Thought" later in this volume.)

Since the nocturnal sun-god was understood as the *ba*-soul, he was depicted as ram-headed, for the term *ba* also designated a ram (fig. 12). His barque traveled on a water course that was the otherworldly mirror image of the earthly Nile. He was accompanied by a varying number of deities, and he was hailed on both shores by the inhabitants of the beyond. Just as he, in the shape of a *ba*, rejoined his body in the depth of the netherworld, so all the deceased were to rejoin their *bas* in order to awaken to new life. This joining was also seen as the coming together of Re and Osiris. The ruler of the dead became a nocturnal form of the sun-god. Iconographically, this "united" form was a mixed form joining elements of Re to elements of Osiris (or Sokaris).

The path of the sun-god was lined with various places of punishment where anonymous "enemies" were tortured. In depicting this "hell," the Egyptian imagination indulged in ever-new visions. Whoever did not pass the Judgment of the Dead was bound, burned, stood upside

down, and beheaded. Demons tore his heart out, then threw him into fiery pits or cauldrons, just as in medieval scenes of hell. A special place of punishment was the Lake of Fire, painted in red wavy lines. The texts pointed out that its fiery water was cool refreshment for Osiris and the blessed dead but torture for the sinners. Other waters in the beyond served for purification and regeneration.

The path of the dead was barred by gates guarded by serpents and knife-wielding demons. The word of the sun-god threw them open, and spells from the *Book of the Dead* taught every deceased person how to pass the dangerous guardians. Many other threatening beings and places had to be overcome before the sheltering vicinity of Osiris was reached. Countless serpents, many of them winged, multiheaded, and with human legs, populated the netherworld. They punished the sinners with the "firebreath" of their poison, but they also threatened all the other deceased. The worst place of punishment lay in the greatest depth of the netherworld and was called the "place of annihilation." It was merely sketched, using arms extending from the depths, holding cauldrons in which the wicked are tortured.

In strong contrast are depictions of the lush and fruitful regions of the beyond in which the blessed dead received fields to sow, plow, and harvest, as shown in spell 110 of the *Book of the Dead*. The lowly agricultural work, especially the never-ending watering, was done by the *ushabti* figurines, which from the Middle Kingdom were placed in the tombs in large numbers. The provisioning of the dead included clothing, and only the sinners being punished were shown naked, never the blessed dead. It is also noteworthy that in depictions of the beyond, mummies were rarely shown, even though the mummy was at the center of the burial rites. Its shape guaranteed a safe journey into the other world. But after arriving there, the Egyptian hoped to be free of mummy wrappings and to obtain a new body, one that would be the ideal counterpart of the earthly body and that would carry out all its functions; therefore, the body of the dead was depicted exactly like the normal body on earth.

Representations and descriptions of the beyond are also the most important source for an



Fig. 12. Painting of the sun barque with the ram-headed, nocturnal form of the sun-god, from the tomb of Ramesses VI, western Thebes, twelfth century BCE. A. PIANKOFF AND N. RAMBOVA, *THE TOMB OF RAMESSES VI* (1954)

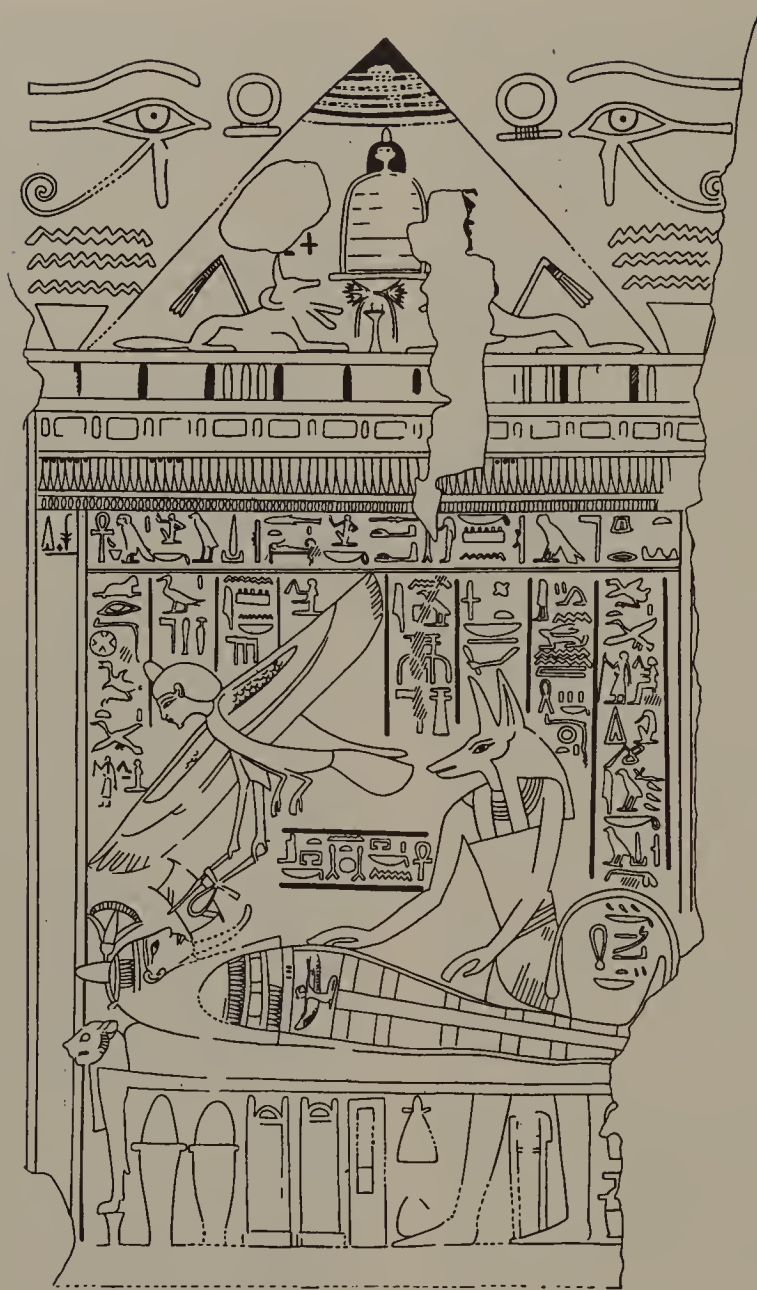


Fig. 13. Scene of the union of the *ba* with the mummy, from the tomb of the vizier Paser at Thebes, circa 1270 BCE. EGYPT EXPLORATION SOCIETY, LONDON

understanding of the Egyptian concept of the person. Aside from the body, there existed not a single soul but a differentiated compound of psychic realities. One component, the *ba*-soul, was represented as a bird, an indication of its free mobility. Only the *ba* was able to leave tomb and netherworld at will and to follow the sun-god into the sky. From the New Kingdom, the *ba* was mostly depicted as a human-headed bird to identify it as a part of human personality (fig. 13), and the textual statement that it too must eat and drink was illustrated by scenes showing the

tree-goddess pouring water for the dead and their *bas*.

Second was the *ka*-soul or *ka*-energy, the sign for which was a pair of arms extended in a gesture of protection. The *ka* embraced and supported everybody up from the depths; it was the person's vital force and well-being. A third concept of the soul, the *akh*, was, like the *ba*-soul, shown in bird form. *Akh* was not a part of the personality but the condition of the blessed dead, the renewed and transformed body with its psychic components. Another concept was

the “shadow,” which accompanied the human being beyond the state of death, lending him or her new strength. The shadow was depicted as either a fan made of ostrich feathers or a black-painted human shape.

To the Egyptians the heart was the organ that steered the will, thought, and feelings. It determined the human character, and in the scenes of judgment it often substituted for the whole personality, being weighed on the scales against the symbol of truth or order, or Ma‘at (as a goddess or feather). In its capacity of “free will” (an aspect of the Egyptian heart), it determined whether the individual had conformed to Ma‘at. The idea of a universal judgment of the dead took shape after the end of the Old Kingdom, and pictorial representations—with the scales in the center and the ibis-headed Thoth as scribe who registered the result—began in the Eighteenth Dynasty. The Ramesside period added the monstrous “Devourer” of the dead who swallowed the condemned, while the “justified” were led before Osiris, judge of the dead.

The judgment scene belonged first to spell 30 of the *Book of the Dead* (the address to the heart

not to testify against the deceased), then to spell 125, the address to Osiris and the forty-two judges of the dead. In the course of the Eighteenth Dynasty, it became customary to supply an illustration (called “vignette” by scholars) to almost every spell (often called “chapter”) to sum up the purpose of the spell pictorially as an addition to the summing-up in the title. Such vignettes included the depiction of the field of offerings in spell 110, the burial rites in spell 1, the tree-goddess in spell 59, the devouring crocodiles in spells 31–32, and many others.

Spell 25 dealt with “remembering the name in the land of the dead.” The name assigned to each being was an essential part of the personality. To erase or to forget the name was to injure the whole human being. Like the heart, the name could figure as an independent unit, but could only be written, not depicted. The royal name was recognized by its cartouche, a knotted amulet surrounding and protecting it. In many representations the cartouche name stood for the image of the king and was adored by officials or shown in action—for example, in “smiting the enemies” (see fig. 14). Inscribing tombs with



Fig. 14. Drawing by Andreas Brodbeck of the cartouche-name of Thutmose IV in action; such scenes enabled an aspect of the ruler’s personality to be preserved. From the king’s chariot found in his tomb at Thebes, circa 1390 BCE. EGYPTIAN MUSEUM, CAIRO

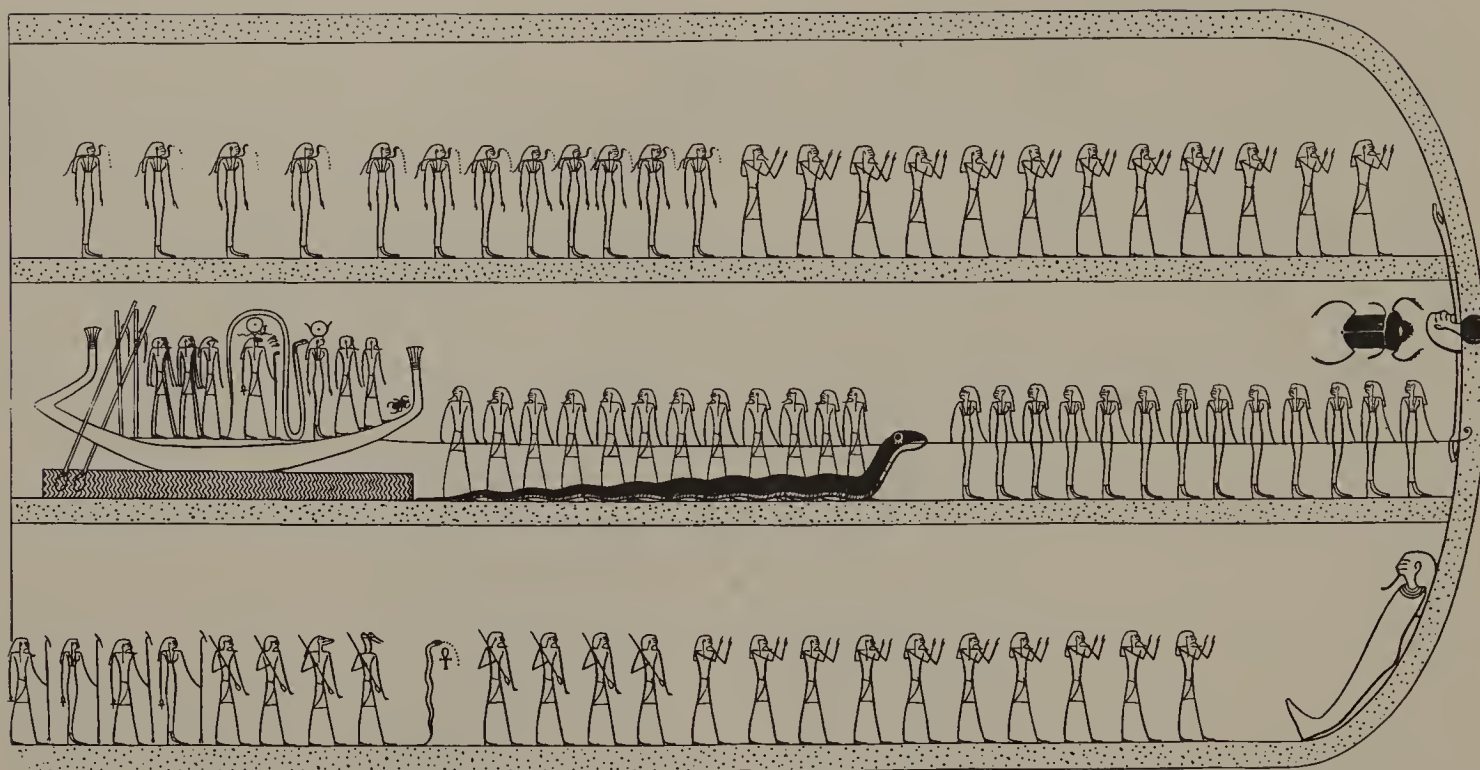


Fig. 15. The twelfth hour of the night from the *Book of Amduat*. A. PIANKOFF AND N. RAMBOVA, *THE TOMB OF RAMESSES VI* (1954)

the names and titles of their owners ensured the survival of the particular part of the personality that they represented.

A new life in the beyond—there was no return to the earth—required that all parts of the human personality be reunited. In death they fell apart temporarily, but every night, in the depth of the netherworld, there occurred the reunion that affected primarily the *ba*, shadow, and body but was also shared by the other entities. It was essential that no part of the human personality be lost, hence the great effort to save and conserve all components, even the most perishable.

The other prerequisite for the renewal of life was the reversal of time. The phenomenon of time occupied the Egyptians greatly, especially in the New Kingdom. Here, too, verbal and iconographic definitions complemented each other. In the *Book of Amduat* and the *Book of Gates*, time appears as the unending body of a serpent in which the hours are “born” and again “devoured,” the hours having the shape of stars or goddesses. In another scene an unending rope is depicted, each convolution of which signifies an hour.

In the last hour of the *Amduat*, directly before sunrise, the time-serpent appears before the sun barque. Then this boat, with all its passengers, is drawn through the body of the serpent in the opposite direction of normal movement, from tail to mouth. Thus, the scene shows the reversal of time that made it possible for “Old Man Sun” to become a newborn child and for the whole world to be rejuvenated every morning. This process created the hope of new life for all the dead (fig. 15).

The Amarna period invented the symbol of the Ouroboros, which later entered into alchemy and mysticism and survives to this day. Depicting the circular body of a serpent called in Egyptian “Tail in Mouth,” it signified among other things the ever recurring beginning of time, or the threat of being extinguished and the rejuvenation of being through nonbeing.

The hope of renewed life was founded not only on the daily rise of the renewed sun but also on the behavior of the moon and the stars. The moon, waning and waxing, was the eye that was injured and then healed, or “filled.” Hence, the moon hieroglyph united the sickle and the



Fig. 16. Some common symbolic signs used also as amulets. DRAWING BY BARBARA LÜSCHER

disk. Among the stars two groups were especially significant: the “indestructible” stars north of the ecliptic and the “unwearying” stars of the ecliptic (the decans of Greek astronomy). The first never set and hence appeared to be exempt from death. Until the Twelfth Dynasty, the entrances of the pyramids were aligned with them so as to enable the *ba*-soul of the dead king to ascend directly to their region. The Middle Kingdom focused on the decan stars, all of which are visible and invisible in a regular sequence. Sinking into the netherworld and yet returning, they thus became another symbol for the return of life. Tables of decans were painted on the lids of coffins and on the ceilings of Ramesside royal tombs. Many strange figures appeared on these star ceilings; only rarely can they be identified with our constellations. The zodiac with its stars was taken over only from Greek sources in Ptolemaic and Roman times.

THE WORLD OF SYMBOLS AND SIGNS

Many hieroglyphs signified neither sound nor thing but, rather, had symbolic meanings: the sail meant “wind” or “breath”; the man bent on

his stick meant “old”; the taut bow string “firm”; and so on. In addition, there was a large group of “lucky” symbolic signs used both in writing and as amulets (fig. 16). Here belonged the signs for “life” (*ankh*) and “duration” (*djed*). The *udjat*-eye, with its complex symbolism, was the eye of the Horus falcon, damaged in combat with Seth but healed by Thoth. As such it became a symbol of the order of the world, endangered yet always saved. But the waning and “refilled” eye also signified the changing moon and the fate of the dead. Moreover, the eye could banish the “evil eye” and drive away afflictions.

Order disturbed and reestablished, especially in the social and political sphere, was also embodied in the two symbols of Ma’at, a throne base and an ostrich feather. In an often-depicted cult scene of the temples, Ma’at in the shape of a squatting goddess with the feather on her head is “offered” to the gods by the king to announce that order, justice, and harmony rule his realm. As a goddess with a feather on her head, Ma’at also appears, even doubled, in the Hall of the Two Ma’ats in which the judgment of the dead takes place. In the frieze of this hall, the Ma’at-



Fig. 17. A pair of arms holding the sun-disk in the western mountain, from a Theban tomb painting, circa 1250 BCE. A. PIANKOFF AND N. RAMBOVA, *MYTHOLOGICAL PAPYRI* (1957)

feather alternates with the protective cobra (uraeus), and in late papyri, all forty-two judges of the dead, to whom the deceased addresses his “negative confession,” often wear the feather of Ma‘at.

Symbols employed only outside the system of writing were rare. One was the grape, used as an amulet and a decorative element but not as a hieroglyph. Such also was the hedgehog, a common symbol of regeneration. The Ouroboros, the serpent that bites its tail, occurs from the reign of Tutankhamun as a symbol of time, eternity, and the cosmos as a whole, but not as a hieroglyph.

Other symbols consisted of several pictorial elements serving as models of processes. In the royal sphere, two of them were the “unification of the Two Lands” and the “slaying of enemies.” (See below, “Symbols of Royalty.”) Another was a scene that after the Amarna period was often depicted on mortuary papyri, tomb walls, and coffins; in a single image, it summed up the sun’s daily journey across the sky and the netherworld, an image that in its simplest form consisted of a pair of arms holding the sun-disk (fig. 17). The mountain range of the desert, in which the old sun sets and from which the new sun emerges, was often indicated. Other elements were sometimes added, such as the signs for east and west or baboons and other creatures who adored the sun in its rising and setting.

Removed from script and text, such complex symbols developed their own dynamics. They stemmed from a feeling, which one senses especially in the Amarna period, that everything could be said in images. The pictorial statement could always be enlarged by additional associations; thus, the depiction of the sun’s daily course was sometimes combined with the separation of sky and earth by Shu or with the revival of Osiris by means of the sun’s rays. What hymns formulated by words and praise was here transformed into pictorial sequences.

However, the tendency to replace texts by pictures was accompanied by its very opposite, the transformation of pictorial representations into readable signs and thus into text. From the beginning the boundary between word and image had been fluid, for pictures could always serve as determinatives—signs that designated the conceptual classes to which words belonged. Thus, the depiction of animals could also be

“read” as a determinative of their names. In the New Kingdom, there were cases in which the titulary of a pharaoh was “written” with the images of gods, thereby enhancing his divinity. And the amuletic signs of *djed* and *tyt*, often together forming a frieze, could be understood as symbolic representations of Osiris and Isis.

In Greco-Roman Egypt, in particular, hieroglyphs acquired symbolic meanings. The temple priesthoods vied with each other in inventing new metaphoric meanings of signs, especially in writing the names of gods. (See the box titled “Ancient Egyptian Conceptions of Language and Writing in Context,” in “Ancient Egyptian and Other Afroasiatic Languages” in Part 9, Vol. IV.) It was this late phase of writing, far removed from the original writing system, that Horapollon, in the fifth century CE, transmitted in his book on hieroglyphs; from it the scholars of the Renaissance drew their notion of hieroglyphic writing. There one could read that the verb “to open” was written with the sign of the hare because that animal always kept its eyes open. Hence, it is not surprising that until the decipherment of the Egyptian script by Jean François Champollion in the nineteenth century, repeated attempts were made to interpret the hieroglyphs as pure symbols, as expressions of an Egyptian “philosophy.” Such an interpretation is justified only with regard to symbols and depictions that were not used in the writing system. (See “The Story of the Semitic Alphabet” in Part 9, Vol. IV.)

Pictorial information could also be conveyed by means of gestures and colors. As elsewhere in the Orient, the language of gesture was richly developed in ancient Egypt. There were specific attitudes for sorrow, fear, worship, jubilation, protection, denial, and so on that were used in the writing system and in the arts. And colors, viewed as partaking of the essence of things, were also used in both areas. The hieroglyphic system is the only writing system in the world in which each sign possessed not only a fixed form but also a particular color. To the natural colors (green for plants, red for timber and parts of the body), symbolic colors were added. Blue was the color of gods; therefore Amun, as the “king of gods,” was often depicted with blue skin. Osiris’s skin was sometimes painted black because he ruled the land of the dead, or green as an allusion to his revival. Red could be an

aggressive, hostile color, but it was also the color of the sun, while the moon was yellow. The depiction of persons distinguishes men (red) from women (yellow). Nuances of colors were not relevant, since only the basic colors were used.

For amulets the color of the materials played an important part. The popular heart amulet was red, hence its preferred material was carnelian. The divine color blue was provided by the precious lapis lazuli, which was obtained from abroad. Besides divinities and sacred animals, various objects with symbolic meanings served as amulets, such as the *ankh* bow (life), the *djed* pillar (duration), and the *shen* ring and *za* mat (both for protection). Amulets were meant to protect the living as well as the dead and to help in provisioning the dead and promoting their regeneration. They shared this function with the magic spells of the *Book of the Dead*, and amulets were often combined with specific spells so as to double their effectiveness.

Religious iconography and symbolism had an impact on Egyptian architecture, some forms of which have had an afterlife in the arts of Europe. As a simple geometric form, the pyramid triumphed over the infinity of desert. Developed out of the step pyramid, the true pyramid was a monumental stylized burial mound and at the same time an image of the primeval hill that had arisen from the waters of chaos at the time of creation. A younger form, one connected with the sun religion of the Fifth Dynasty, was the obelisk, whose point or pyramidion was the first to be touched by the rays of the rising sun. The tallest obelisks, those of the New Kingdom, were usually erected in pairs in front of the temples. The quarrying, transport, and erection of these monoliths up to thirty meters (100 feet) high was a technical achievement of the first order.

The parts of an Egyptian temple were replete with symbolic meaning. The two entrance towers, the pylons, symbolized Isis and Nephthys supporting the sun. The hall of columns (hypostyle) signified the primeval marsh from which papyrus columns grow. The sanctuary was the primeval hill, and the ceiling was the sky. Even the brick enclosure wall was designed to imitate the waves of the primordial ocean. The whole temple was the "horizon" of the deity wherein the sun rose and set, and its straight axis underlined the processional path

of the divine image. The ground plans of royal tombs in the later Twelfth and the Eighteenth Dynasties, on the other hand, were attempts to imitate the winding paths of the netherworld.

SYMBOLS OF ROYALTY

The Egyptian temple cult was ritualistic, involving the deity and the king. In theory pharaoh (the "Great House") was the sole priest and mediator between the human and the divine. Egyptian religion was therefore unimaginable without him, and the sacral institution of kingship, over a period of three thousand years, survived all conquests and periods of foreign rule until the victory of Christianity, which had no need of a pharaoh. Only in Egypt were the Roman emperors depicted with the regalia and attributes of the native rulers so as to fulfill the religious functions of pharaoh.

The earliest known title of an Egyptian king was the Horus title. It made him known as the earthly image of the falcon-formed sky-god Horus, who in the early period was the most important deity. The title was written by means of the ground plan and facade of the royal palace upon which the Horus falcon was perched, for as a falcon the king on assuming his rule sat down in the palace, and as a falcon he flew up to the sky in death. The multitude of pharaoh's names, titles, and epithets was matched by a multitude of depictions. The artist could represent him with a variety of crowns and attributes, thereby avoiding monotonous repetitions in the scenes appearing in temples and tombs. Pharaoh, furthermore, embodied a duality: he was Horus and Seth, Sakhmet and Bastet (the wild and the pacified deity); he was Lord of the Two Lands, or king of Upper and Lower Egypt; and he was god and man. As king of Upper Egypt, he wore the white crown, as king of Lower Egypt the red crown, and the two were combined as the double crown. In the New Kingdom and thereafter, the blue crown was favored, and during the Late Period, there appeared ever more composite crowns. Often pharaoh wore the royal headcloth (*nemes*) instead of a crown. His kingship was also embodied in the uraeus (a combination of falcon and sun-god) on his brow (in the Twenty-fifth Dynasty, two



Fig. 18. Scenes of episodes 1, 2, and 3 at the *Sed*-Festival of Osorkon II, Bubastis, circa 860 BCE. EGYPT EXPLORATION SOCIETY, LONDON

uraei)—a rearing cobra who spat the “fire” of her poisonous breath against all enemies. Lastly, the king was characterized by an artificial ceremonial beard, a straight one in contrast with the curved beard of the gods.

Pharaoh wore a simple linen kilt with a trapezoid or triangular centerpiece; his torso was bare, his feet were shod in sandals. This archaic dress was depicted over a period of three thousand years and was even used to identify the Roman emperors as pharaohs. From the Eighteenth Dynasty, however, the king was also shown in a long embroidered kilt, and his torso was sometimes covered by a kind of shirt. Only in the special ceremonies of the *Sed*-Festival

(renewal of kingship) did he wear a mantle. The power-denoting panther skin had early become the garment of certain priests and was worn by the king only in connection with priestly functions. But some other animal attributes belonged to the royal dress—for example, a bull’s tail and falcon wings.

The attributes that the king held in his hand were first of all the bent shepherd’s staff and the flagellum (the nature of which is not certain, perhaps a fly whisk; see fig. 18). These attributes of royalty were taken over by Osiris, and both he and the king might carry other scepters and insignia, among them the sign of life (*ankh*) that belonged to all the gods. As for weapons, the

king was often shown with the archaic mace, and from an early period, he might have a dagger in his belt. Pieces of jewelry (a broad collar, bracelets and arm rings, and even earrings) supplemented the regalia.

The symbol of actual rule was the throne, which was associated with the king and certain "great" gods. It usually had a very simple cubic form, with symbolic decoration, such as the sign for "unification of the Two Lands." The universality of the king's rule was indicated by the conquered foreign peoples at his feet, especially the so-called Nine Bows, which signified the totality of foreign peoples. In the treasure of Tutankhamun was a different type of throne, with a high back and lion's legs. In the early periods, the king walked when leaving the palace or was carried in a palanquin. In the New Kingdom, especially with Akhenaten (Amenhotep IV), the chariot was favored; in hunting scenes and in battle, pharaoh was now mostly shown in a chariot (unknown in Egypt before the Hyksos). A New Kingdom depiction of him in a boat assimilated him to the gods, whose images were borne in barques.

Above pharaoh there hovered protective powers such as a vulture or falcon, or the winged sun-disk flanked by uraei. As a symbol of royalty, this winged sun-disk may have been taken over by Hittites, Assyrians, and Persians. From the reign of Akhenaten, the king was often depicted, in the tombs of his officials, on a raised balcony from which he bestowed rewards on his loyal servants.

The deification of pharaoh was also depicted iconographically. From the Fourth Dynasty on, statue groups showed the king between gods; in temple reliefs, too, he was often placed among the gods, and in some scenes, he was nursed by a goddess or crowned by a god. From the beginning of history, the king was identified with Horus, and ever-new attempts were made to express this pictorially. The Chephren (Khafre, Rekhaef) statue, on which the protective falcon was placed behind the king's head, provided an excellent solution that was repeated several times. The New Kingdom created a mixed form of Horus-King, a "king in falcon dress," and Amenhotep III had himself depicted as falcon-headed in the temple of Luxor. Later kings down to Nectanebo II were worshiped as a divine falcon.



338



351



353

Fig. 19. The triumphant pharaoh represented in animal form on two plaques (338 and 351) and a scarab (353) of Amenhotep II and III, from the Fraser-von Bissing collection. DRAWING BY ANDREAS BRODBECK; ANTIKENMUSEUM, BASEL

Similarly, kings of the Eleventh and Twelfth dynasties adopted the tall feather crown of the god Amun, and Ramesses (Ramses) II appeared as the sun-god with the sun-disk above his head, while the texts called him "sun of Egypt." Texts and depictions also presented pharaoh as the Nile of Egypt, since he, like the inundating Nile (Hapi), provided for the land. The grapes on the baldachin of his throne, while also connected with Osiris, signified the general prosperity that was due to his reigning. At the base of processional barks, the king was shown as supporting the sky in the function of the god Shu.

In addition to appearing as the divine falcon, pharaoh was shown from early times as a bull or lion, both signifying rule. From the Fourth Dynasty, a particular leonine form was the image of the sphinx, a lion with the head of the king, mostly wearing the *nemes* headcloth and, sometimes, crowns. Lion and falcon were combined in the winged griffin, an image of pharaoh from the early Fifth Dynasty. All these royal creatures were interchangeable in scenes of royal triumph, which in the New Kingdom decorated

scarabs and other seal amulets and showed the king stepping on recumbent enemies (fig. 19).

These scenes of triumph were variations of the motif of “smiting the enemies,” early examples of which are a Naqada II period painting from Hierakonpolis and the principal scene of the Narmer Palette. Later this theme appeared on the pylons of temples and on pectorals and scarabs. It showed the victorious king with raised mace about to slay a falling enemy or group of enemies whom he has grasped by the hair. In temple scenes this ritual smiting took place before a god who handed a weapon to the king. In the Amarna period, even the queen was shown in this pose. Nonroyal monuments depicted the triumph over hostile forces in the form of scenes where officials were hunting and fowling.

The motif of the king on a chariot, so favored by Akhenaten, was at the center of scenes of hunting and warfare that, already found side by side on a painted chest belonging to Tutankhamun, decorated the outer walls of temples in the Ramesside period. Shooting his bow, pharaoh advanced against hunted animals or the chaotic mass of his enemies (Nubians, Asiatics, and Libyans), who fell under the hoofs of his horses. Behind or beside him followed the Egyptian troops, arranged in orderly rows, who were not taking part in the action. Similarly, the historical inscriptions related only the action of pharaoh, who was stronger “than a million soldiers.” Ramesses II had the battle of Qadesh (Tell Nebi Mend, Syria) depicted in a similar manner but with more details. At the same time, he placed these representations in the service of a deliberate policy of peace that eventually yielded the alliance of Egyptians and Hittites.

The peaceful aspect of kingship was embodied in the scene of the Unification of the Two Lands, in which the heraldic plants of Upper and Lower Egypt were tied around the hieroglyph for “uniting.” In the detailed version, as on the thrones of the statues of Senwosret (Sesostris) I, a pair of gods performed the “uniting” on behalf of the pharaoh. In other cases, only the heraldic plants indicated the “unification.” As with every duality, that of the Two Lands was harmonized in the person of the king, who by ascending his throne recreated the unity of the world; therefore the preferred position of the symbol of “unification” was at the throne.



Fig. 20. Sety I offering Ma'at; relief in the temple of Sety I at Abydos, circa 1280 BCE. DRAWING BY HILDI KEEL-LEU, AFTER AMICE M. CALVERLEY AND MYRTLE E. BROOME, *THE TEMPLE OF KING SETHOS I AT ABYDOS*, VOL. 4 (1958)

It was a specifically Egyptian idea that the forces of the king were spent at the end of a thirty-year rule—that is, after a generation—and so a renewal was required. In dynastic times this was no longer done by means of a ritual regicide but rather by the “death” and burial of a royal statue and the reenacting of the coronation rites by the old-new king. The rites included a cultic run by which pharaoh proved his vigor. The scenes of this *Sed*-Festival, in which the king wore special regalia, already in the Old Kingdom belonged to the repertoire of royal mortuary temples; these included the temples of kings who had not ruled for thirty years, for the festival had become a symbol of continuous renewal in this life as well as beyond death and was still understood thus in the New Kingdom (fig. 18).

We have spoken of the scenes of pharaoh's divine birth and of his overall presence in the cult scenes of the temples, the king always acting in the presence of deities. Many temple statues had him kneeling, holding in his hands spherical wine jars that he offered to a deity so that the god might be appeased and manifest his grace to the human world. Of even greater universal significance was the scene of "Offering Ma'at," in which the king presented to a god the small figure of the goddess Ma'at with a feather on her head (fig. 2). She embodied the idea of justice, order, and truth, in nature as well as in the social sphere. Without her the gods could not live, and the world and its institutions could not function.

In the simple scene of "presenting" Ma'at, being or non-being was at stake, the order and harmony of the world, over which pharaoh had to watch and for which he was responsible to the gods. The scene is particularly impressive in demonstrating what Egyptian religious iconography could accomplish: a meaningful interpretation of the world through clear and memorable images, which often were superior to the word of the texts and, at the least, could supply additional information.

The fact that the Egyptian language possessed more than twenty words for our terms "picture" or "image" is in itself a clear indication of the differentiated and conceptually ramified manner in which the Egyptians made use of iconography. Whoever wishes to understand ancient Egyptian culture, and especially its religion and way of thinking, must learn the language of images.

Translated from the German by Miriam Lichtheim

BIBLIOGRAPHY

Material is collected in the series *Iconography of Religions: Section XVI, Egypt*, edited by TH. P. VAN BAAREN et al. An example of how religious texts can be illustrated by images is provided by OTHMAR KEEL, *The Symbolism of the Biblical World: Ancient Near Eastern Iconography and the Book of Psalms* (1978). A typology of the papyri of the Twenty-first Dynasty, with very rich iconographic material, is in ANDRZEJ NIWIŃSKI, *Studies on the Illustrated Theban Funerary Papyri of the Eleventh and Tenth Centuries B.C.*, *Orbis Biblicus et Orientalis* (1989). On the representa-

tion of Egyptian gods, see ERIK HORNUNG, *Conceptions of God in Ancient Egypt: The One and the Many*, translated by John Baines (1981), and GEORGE HART, *A Dictionary of Egyptian Gods and Goddesses* (1986). On the deified "patrons," see DIETRICH WILDUNG, *Egyptian Saints: Deification in Pharaonic Egypt* (1977).

On myth, see RUDOLPH ANTHES in SAMUEL N. KRAMER, ed., *Mythologies of the Ancient World* (1961); J. GWYN GRIFFITHS, *The Conflict of Horus and Seth from Egyptian and Classical Sources* (1960); ROSALIE DAVID, *The Cult of the Sun: Myth and Magic in Ancient Egypt* (1980); J. GWYN GRIFFITHS, *Plutarch's "De Iside et Osiride"* (1970); and HERMAN TE VELDE, *Seth, God of Confusion* (1967).

For the Books of the Netherworld, see ALEXANDRE PIANKOFF, *The Tomb of Ramesses VI*, Bollingen Series 40, no. 1 (1954). For the *Book of Two Ways*, see LEONARD H. LESKO, *The Ancient Egyptian Book of Two Ways* (1972), and ALEXANDRE PIANKOFF, *The Wandering of the Soul*, Bollingen Series 40, no. 6 (1974). For the *Book of the Dead* and its vignettes, see R. O. FAULKNER, *The Ancient Egyptian Book of the Dead* (1985), edited by CAROL ANDREWS. Discussion of the *ba*-soul is in LOUIS V. ŽABKAR, *A Study of the Ba Concept in Ancient Egyptian Texts* (1968). On punishment in the Beyond, see JAN ZANDEE, *Death as an Enemy According to Ancient Egyptian Conceptions* (1960).

On amulets, see WILLIAM M. FLINDERS PETRIE, *Amulets: Illustrated by the Egyptian Collection in University College, London* (1914), and CYRIL ALDRED, *Jewels of the Pharaohs: Egyptian Jewelry of the Dynastic Period* (1971). Hieroglyphs and their Renaissance "myth" are treated in ERIK IVERSEN, *The Myth of Egypt and Its Hieroglyphs in European Tradition* (1961).

Iconography in architecture is treated in I. E. S. EDWARDS, *The Pyramids of Egypt* (1947; rev. ed. 1986); and LABIB HABACHI, *The Obelisks of Egypt: Skyscrapers of the Past* (1984). Systematic aspects of temple design and decoration are treated in DIETER ARNOLD, *Wandrelief und Raumfunktion in ägyptischen Tempeln des Neuen Reiches*, *Münchener Ägyptologische Studien* 2 (1962), and *Die Tempel Ägyptens: Götterwohnungen, Kultstätten, Baudenkmäler* (1992); ERICH WINTER, *Untersuchungen zu den ägyptischen Tempelreliefs der griechisch-römischen Zeit* (1968); and ELENİ VASSILIKA, *Ptolemaic Philae*, *Orientalia Lovaniensia Analecta* 34 (1989). JOHN BAINES, *Fecundity Figures: Egyptian Personification and the Iconology of a Genre* (1985), additionally discusses more general issues of the organization of religious iconography. RAGNHILD BJERRE FINNESTAD, *Image of the World and Symbol of the Creator: On the Cosmological and Iconological Values of the Temple of Edfu* (1985), studies the underlying symbolism of temple design.

Religion and Science

On pharaoh and his symbolism, see HENRI FRANKFORT, *Kingship and the Gods: A Study of Ancient Near Eastern Religion as the Integration of Society and Nature* (1948). The Sed-Festival is treated in C. J.

BLEEKER, *Egyptian Festivals: Enactments of Religious Renewal* (1967). For royal symbolism in general, see the essays in DAVID O'CONNOR and DAVID P. SILVERMAN, eds., *Ancient Egyptian Kingship* (1994).

SEE ALSO **Egypt in European Thought** (Part 1, Vol. I); **Palaces and Temples of Ancient Egypt** (Part 4, Vol. I); **Myth and Mythmaking in Ancient Egypt** (Part 8, Vol. III); **Theology, Priests, and Worship in Ancient Egypt** (Part 8, Vol. III); **Ancient Mesopotamian Religious Iconography** (Part 8, Vol. III); and **Ancient Egyptian Reliefs, Statuary, and Monumental Paintings** (Part 10, Vol. IV).

Theology, Priests, and Worship in Ancient Egypt

HERMAN TE VELDE

THE PRESUPPOSITION OF ALL Egyptian priesthood, worship, and theology was the existence of divine beings. The divine beings were both male and female (gods and goddesses), as were those who performed their cult (priests and priestesses). Obviously Egyptians believed that they had to come to terms with the world of the gods. These gods were known to manifest themselves in the cosmos and in the human world. Therefore, theology, as knowledge of the gods and their world, also encompassed cosmology, sociology, anthropology, and so forth, extending far beyond what can be covered in this essay.

The aim of worship was to come into contact with the gods—to satisfy, to please and honor, and to appease them if necessary, or in exceptional cases, to forestall them or to ward them off. It would be most unwise to neglect and forget gods. If the gods were not worshiped, they would leave Egypt, and cosmic disasters would occur. The state would fall apart and be destroyed by enemies and rebels. Individuals would become the victims of illness and premature death. (Such catastrophes are narrated in the Restoration Stela of Tutankhamun and in the Ptolemaic period Papyrus Jumilhac.) The Egyptian elite, from which the priests were re-

cruited and to which they belonged, was deeply convinced that human life is not possible in chaos. Against ever-threatening chaos, justice and order (Egyptian *ma'at*) should be maintained, and the correct action to take toward the mysterious and conflicting powers of the universe was to worship and appease them. The Egyptian root *hṭp* means both “offering” and “peace.”

PRIESTS

In principle, the only person qualified to approach and address the gods was the pharaoh. He was a human being but also a god or a son of a god; being of divine nature, he had access to the world of the gods. The pharaoh was the intermediary between the world of humanity and the world of the gods. For the third millennium BCE, clear evidence of worship and temple ritual is scarce and scattered, but it seems safe to assume that the king was, from the beginning of Egyptian history, the “lord of rites” (literally, “lord-of-doing-things”—*nb jrt ht*), as he was called from the Middle Kingdom onward.

Although in principle only the pharaoh could perform rituals, in practice he delegated the

enormous task of worshiping the gods of Egypt in the many temples to those of his state officials who served as priests. But the theological doctrine that he alone could build temples for the gods and perform the rituals was maintained, and the representations of temple ritual show the king officiating, even though the rituals were actually celebrated by priests. The officiating high priest of a temple seems to have been dressed like a king. Whether this was the case or not, the priest had to say at the beginning of the daily temple ritual: "It is the king who sends me." In theory the authority of the high priest and the validity of a ritual derived more from this royal mission or ordination than from any other factor such as ritual purity, initiation, sacred knowledge, or heredity. Even offerings made by private persons such as those depicted in tombs could be fully efficacious only if presented in the name of the king. An offering in a temple or elsewhere was to be acknowledged and announced as an "offering-which-the-king-gives." Although most daily rituals and religious festivals were delegated, the king doubtless performed the daily ritual in person in the main temple of the chief god in the pharaoh's residence and conducted festivals wherever possible.

The king was a priest and the priests were officials of state. A clear-cut separation between "church" and "state" did not exist. The Egyptian priesthood has been described as "a body of men separated from the rest of the community for the service of a god." This is true insofar as there emerged in the course of Egyptian history a professional priesthood separate from the rest of the elite of state officials. But Egyptian religion as such, including temple worship of priests, was never a religion of faction, as several modern religions with universal pretensions are, but a community religion. It was, of course, a hierarchical community religion in which the elite predominated. The pharaoh was the representative of the community and delegated his task of government to civil servants, his military task to army officers, and his task of worship to priests. Priests were specialized state officials, or servants of the pharaoh with a special task.

One of the Egyptian names for priest, which is always rendered by the Greek word *prophetes* in bilingual texts, is "servant of the

god" (*hm-ntr*). One might try to find in this expression an indication that the priest was or should be more obedient to his god than to the pharaoh, but that would be too modern an interpretation, based on the modern separation of church and state. The word "god" in the expression "servant of the god" simply means the divine pharaoh. So the high priest of Amun, who was officially called "First servant of the god of Amun," was the first royal servant of Amun. The main task of the priestly function was to worship, in the name of the pharaoh, the god or gods of a particular temple who were present in their cult images.

A god or goddess never lived alone in a temple. Usually there was a triad, or a divine family of father, mother, and son. This divine family could be extended to include many more divine companions. These larger groups were often called enneads, although their number was not always nine. Egyptian temple worship focused on the main god or goddess of the temple, but in keeping with the polytheistic character of Egyptian religion, it encompassed many other divine beings. A significant aspect of Egyptian theology was the formulation of the relations among the many gods and goddesses in hymns and other temple texts on the basis of traditional mythology.

The gods lived in their own world; they were in heaven. Their manifestations (*b'w*) descended to earth to live in two- or three-dimensional images. Cult images of the gods were made by the priests in secrecy. They were consecrated with a special ritual called the Opening the Mouth in which life was symbolically imparted to them. More or less the same ritual of Opening the Mouth was used to give life to the mummy of a deceased human being. Consecration rituals were repeated periodically, especially during New Year festivities, in order to guarantee a cult statue's symbolic life.

The cult images were kept in mysterious darkness in the inner part of the temple. The cult image of the principal god of the temple was placed in a shrine in the sanctuary. Between the entrance to the temple precinct and the sanctuary, a series of gates and doors on the main axis of the temple more and more effectively protected this most holy place from the dangers and impurities of the world outside. Although little is

known about these cult images, they were probably quite small, perhaps about fifty centimeters (twenty inches) high. One can therefore envisage such a statue as a kind of doll in human form, sometimes animal-headed and made of wood, stone, or often of precious metals such as gold. It was enveloped in linen cloths of different colors. It was this image or doll that represented the divine presence in the world and was called "mystery" (*št*). The priest had to worship, clean, clothe, anoint, fumigate, and nourish symbolically this cult image and to protect it every day from all evil influences.

Therefore, those who were allowed to enter the temple, that is, the priests, had to observe conditions of physical and symbolic or ritual purity. The most common term for a priest was "the pure one." It seems that many children of the elite, after reaching a certain age, began to observe rules of purity and were introduced into the priesthood as "pure ones." Some of them pursued a priestly career, while others later made a career elsewhere in the proliferating state bureaucracy. Older men might also enter or return to the priesthood after a career in the army or elsewhere.

Priests had to wash themselves several times each day. According to Herodotus, it was "twice a day and twice every night." Egyptian sources mention a lustration performed three times a day, a number that accords with the three daily services in the temple. This purification was carried out in the sacred lake in the temple precinct or in stone basins at the entrance to the temple. Its purpose was not only to remove physical pollution but also to give spiritual life. The water of this "baptism" was considered to be the primordial element from which life comes. Reliefs show purification scenes in which the water falling from the pitchers is indicated by a rain of hieroglyphs signifying life. Priests purified their mouths with natron diluted in water. Another obligation was to remove hair from the body and head. Shaven-headed priests are commonly shown in Egyptian art. Outside the temple, priests could wear wigs like other members of the elite.

Circumcision, whatever its original significance may have been, was connected with purity. It seems that circumcision was obligatory for priests. It was a distinctive mark of priest-

hood and formed part of the rites of induction in the latest periods, but whether it did for earlier times is uncertain. Another aspect of purity was sexual abstinence, at least when the priests were confined within the temple precinct. Celibacy was never required. The priesthood was hereditary. According to Diodorus Siculus, a priest was supposed, unlike others, to limit himself to one wife. Priestesses could also marry. Both the husband and the wife of such a couple often held priestly titles. In the first millennium BCE, however, the God's Wife of Amun and the women of her entourage had to remain virgins.

Priests observed food taboos that varied according to the temple and district to which they belonged. Priests were usually clad in clean white linen and wore white sandals. They were forbidden to wear wool. Holders of some priestly offices wore distinctive clothes. In the New Kingdom and later, *sem* priests dressed in a panther skin. This was an ancient garment worn in the Old Kingdom by the elite, not just by priests. The high priest of Heliopolis (biblical On) was draped in a skin covered with stars, and the high priest of Memphis (biblical Noph, modern Mit Rahina) was distinguished with a collar of special shape and a side plait or "lock of youth"; he was not completely shaven and was symbolically still a child.

On a door surround in the temple of Edfu is written: "Everyone who enters by this door, beware of entering in impurity, for God loves purity more than millions of rituals, more than hundreds of thousands of fine gold. . . ." A similar inscription in the temple runs:

Turn your faces to this temple in which His Majesty has placed you. He sails in the heavens while seeing what is done therein, and he is pleased therewith according to its exactitude. Do not come in sin, do not enter in impurity, do not utter falsehood in his house, do not covet things, do not slander, do not accept bribes, do not be partial as between a poor man and a great, do not add to the weight and measure, but rather reduce them, do not tamper with the corn-measure, do not harm the requirements of the Eye of Re (i.e., the divine offerings), do not reveal what you have seen in the mysteries of the temple. . . .

Thus, the required purity was not only physical, but also moral.

There were two principal grades of priest: the higher grade of “servants of the god” (*hmw-ntr*), a term Egyptologists usually render “prophets,” as the Greeks did, and the subordinate “pure ones” (*w'bw*), or *wab* priests. In an average temple, there may have been from ten to twenty or twenty-five priests, but in the larger temples in important and populous towns there may have been many more. The priests were divided into four groups or gangs of service, now known by their Greek designation, *phyle*. Each *phyle* served one lunar month by rotation, so that everyone had an interval of three months between two periods of ritual service. The head or “regulator” of a *phyle* was normally a prophet, while others were mostly *wab* priests. It seems that practically all the children of the elite became *wab* priests in one of the temples in their district after they had finished their education in school. Women had their own *phyles*. After marriage a woman remained in the *phyle* into which she had been initiated as a girl. All women of rank were singers, dancers, or musicians in the temple of a god or goddess in their hometown. *Wab* priests could do other work in or outside the temple when they were not on their months of ritual duty.

The title “servant of the god” is sometimes interchangeable with “father of the god.” This was originally a court title, with “god” signifying “pharaoh.” This court title was given as an honorific to persons who were already senior *wab* priests and who had effectively reached the higher level of “servant of the god” without being officially inducted into the grade. The High Priest of Amun, Bakenkhonsu, who lived in the time of Sety I and Ramesses (Ramses) II, relates in his autobiography that he went to school in the temple of the goddess Mut for four years. Then he was a chief of a training stable of King Sety I for eleven years. After that he was instructed in the priestly function by his father, who was a second prophet in the temple of Amun. He was a *wab* priest for four years and father of the god for twelve years before becoming a prophet. He was third prophet of Amun for fifteen years and second prophet of Amun for twelve years. At the end of his long career, he had held the office of high priest, or First Prophet of Amun, for twenty-seven years.

It is not possible here to define the conditions



Relief of Ramesses II (circa 1279–1213 BCE) worshipping Ptah. The king is offering *ma'at*, “Order,” shown as a hieroglyph of a goddess with a feather in her wig and holding the *ankh*-sign signifying “life.” Great Hypostyle Hall at Karnak, southern exterior wall. CARL RICHARD LEPSIUS, *DENKMÄLER AUS ÄGYPTEN UND ÄTHIOPIEN* (1849–1859)

of admission to the priesthood for all periods of Egyptian history. Before the New Kingdom, the priesthood was hardly a distinct professional group. Priestly service was performed as a part-time job by those who belonged to the scribal elite. Another professional group emerged in comparable fashion. Before the New Kingdom, a standing army did not exist in Egypt. Even during the New Kingdom, it was easy to move from military or civil service into the priesthood and vice versa. In Ptolemaic and Roman times, the priesthood was almost the only route to personal distinction for the native Egyptian elite, because the higher positions in the army and administration were mostly held by foreigners.

Among the methods of recruitment to the priesthood were inheritance, cooptation, and the purchase of office. In a rather stable society, as Egyptian society generally was, it was traditional for a father to bequeath his function to a

son, and this pattern held for priestly service. Offices, including priestly ones with their incumbent privileges and income, could be disposed as personal property. From the Late Period, there are instances where men claimed up to seventeen generations of ancestors as priests of the same god in the same temple. In the text of the daily temple ritual of Karnak, one reads that the priest said not only "It is the king who sends me" but also "I am a prophet, the son of a prophet." The hereditary character of the priesthood was both rule and custom.

Nonetheless, the pharaoh or his delegate retained the right to nominate whom he pleased to whichever office he pleased. But such rights and privileges of the pharaoh were often no more than nominal. Because of the great number of temples and priestly functions, royal interference must in practice have been rare. So far as can be seen, royal interference or approbation was restricted to the highest pontiffs of the great cults, while nomination of priests to lesser ranks was left to the high priests. But even in cases where the high priest of Amun at Karnak was designated by an oracle of the god himself, the god's choice had to be confirmed by the king. On one occasion at the beginning of the reign of Ramesses II, the god chose, from several names placed before him by the king, someone who did not belong to one of the Theban priestly families; this was Nebwenenef, who was priest in This (Thinis), and the king was happy to confirm this politically significant divine intervention.

During the New Kingdom, the high priest of Amun sometimes held the title "overseer of all the prophets of Upper and Lower Egypt." This was doubtless often more than just an honorific title, but we do not know to what extent royal authority was really delegated to a sort of pope or minister of temple affairs. In Roman times the *idios logos*, or representative of the emperor in religious matters, granted permission to circumcise a candidate and to admit him to the priesthood after the necessary information had been laid before him, which included whether the candidate was able to read and declaim hieratic religious texts. When Tutankhamun revived local priesthoods after the turmoils of the Amarna period, it is said that he—which must mean those entrusted with the task—"installed *wab*

priests and prophets chosen among the sons of local dignitaries, children of prominent men whose names were known."

The majority of examples of the purchase of priestly office come from the Greco-Roman period. A priest could have several offices and incomes in different temples. He could also receive income from nonpriestly work. The income of a priestly office derived from two sources: the temple estates and the daily and occasional offerings in a temple. Priests could increase their income by performing periodical or daily services for the dead. They might receive allowances for a wife and children, and they usually enjoyed immunity from conscripted labor and taxation. Thus, priestly office could be economically very advantageous.

The office of priest was also prestigious. The stoic philosopher Chaeremon of the first century CE may have been right when he said that all people honored priests "as if they were a sort of sacred animal." This comparison of a worthy human being with an animal would have been as strange to Greek readers of his time as it is for modern westerners, and so it seems authentically Egyptian. According to the Egyptians, sacred animals were living images of gods. The divine nature of the king was on occasion explained similarly in Egyptian theology by saying that the pharaoh was an image of a god; the name Tutankhamun means "living image of Amun." Egyptian theology never went as far as Jewish and Christian tradition in stating that man as such is an *imago dei*, or at least is created in the image and likeness of God. It did, however, maintain that some men, such as high priests, reflected the appearance and qualities of the god they served, or that they impersonated him.

Thus, the title of the high priest of Thoth, who separated the two fighting gods Horus and Seth, was "arbitrator between the two." The high priest of Ptah, the divine craftsman, was "he who is great at directing the crafts," while the high priest of Khnum, the god who created man on his potter's wheel, was "modeler of limbs," and the high priest of the sun-god Re was "he who is great at seeing," probably not because he was permitted to see the god, but because the sun-god's special characteristic of unrestricted vision was transmitted to him. The *sem* priest clad in

The Gods and Goddesses of Ancient Egypt

HERMAN TE VELDE
JACOBUS VAN DIJK

AMAUNET "The hidden one." Female counterpart of Amun who was worshiped in Karnak and depicted as a woman wearing the crown of Lower Egypt.

AMUN "The hidden one." Creator-god of Thebes (Diosopolis Magna), who was connected with the sun-god Re, and who as "Amun-Re King of the Gods" became one of the most important gods of the Egyptians. He was worshiped principally at Karnak, where he formed a triad with Mut and Khons, but also elsewhere. He was usually shown as a human being wearing a cap and two plumes. As a fertility god, he was also linked with Min. His animals were the ram and the gander.

ANAT and ASTARTE West Semitic goddesses who were often worshiped together in Egypt in Ramesside times. They were connected with Seth, the divine foreigner of the Egyptian pantheon. Goddesses of warfare, related to the army and horses, they were portrayed carrying shield and weapons, usually in Egyptian dress, but also shown riding on horseback in the nude. They were worshiped mainly in the eastern Delta but also at Memphis (biblical Noph, modern Mit Rahina) and elsewhere.

ANUBIS "Puppy" (?). The divine embalmer, worshiped in several places as Lord of the Necropolis. He was depicted as a human being with a dog or jackal head, or as a recumbent dog or jackal.

ANUKIS Goddess of the region of the First Cataract. She was the divine daughter (rather than the usual son) in the triad of Elephantine, where she was worshiped together with her father and mother, Khnum and Satis. Elsewhere, for example at Komir near Esna, she was worshiped independently. She was represented as a woman wearing a crown of feathers or, more rarely, as a gazelle.

APIS Sacred bull with markings on his hide and a sun-disk between his horns, worshiped in Memphis, who became a manifestation or "herald," of Ptah. Other sacred bulls were Mnevis, worshiped at Heliopolis (biblical On) as a manifestation of Re, and Bukhis, worshiped at Armant (Hermopolis, Iuny) as a manifestation of Montu.

APOPIS The snake enemy of the sun-god Re. Con-

sidered to be a demonic dragon and not a god, he was not worshiped anywhere.

ASTARTE, see under **ANAT**

ATEN "Sun-disk." He became a deity in the time of Akhenaten, who made him his sole and exclusive god. He was initially depicted with a hawk's head, but this was soon replaced by the image of a sun-disk with rays terminating in human hands often extending symbols of life toward the king and his family. (See next chapter.)

ATUM "The completed one" and "the one who is not," according to the dual meaning of his name. Primeval creator-god depicted as a human being wearing the double crown and worshiped at Heliopolis as head of the Great Ennead ("Nine Gods"), consisting of Atum, Shu, Tefenet (Tefnut), Geb, Nut, Osiris, Isis, Seth, and Nephthys.

BAAL West Semitic god introduced into Egypt during the time of the Hyksos and closely connected with Seth, the divine foreigner in the Egyptian pantheon. He was depicted as a Syrian, wearing a pointed beard, a conical headdress, and foreign dress. Baal, or the foreign Seth, was worshiped at Memphis, in the eastern Delta, and elsewhere.

BASTET "She-of-Baset," one of the many Egyptian lioness goddesses, worshiped in Baset or Bubastis (Tell Basta, near modern Zaqaziq in the Delta). In the first millennium BCE, she specialized as the friendly and appeased counterpart of the dangerous lioness goddess Sakhmet and was rendered as a cat or as a woman with the head of a cat.

BES God of the bedroom, connected with sexuality and fertility, but also a protective family god who repels evil, especially at night and at the birth of a child. He was primarily worshiped in private homes and had no special cult center. He was depicted as a dwarf with a masklike face, and often with a crown of feathers, a lion's mane, or exotic coiffure.

BULLS, sacred, see **APIS**

DEDWEN Anthropomorphic god presiding over Nubia and its products, such as incense. Despite being a Nubian, he was usually rendered in normal Egyptian form. In Nubia his cult is attested in al-Lessiya and Uronarti.

ENNEAD, see **ATUM**

GEB God of the earth. He was separated from his

consort Nut, the goddess of the sky, by his father Shu. Geb is "father of the gods," especially of Osiris, and "prince of the gods" as heir of Atum. He was depicted in human form. He was worshiped at Heliopolis and elsewhere.

HAPY "Inundation." Personification of the fecundity of the Nile and therefore typified as an obese human figure that was sometimes interpreted as being androgynous.

HATHOR "House of Horus." One of the most universal Egyptian goddesses, who was worshiped in many temples. She was the goddess of women, dance, drunkenness, and sexual excitation, but she was also identified with the desert plateau where the dead were buried. She was usually rendered as a woman with cow horns and a sun-disk on her head or as a cow, but she was also shown as a lioness or as a tree-goddess.

HAURON West Semitic god introduced into Egypt during the New Kingdom, where he was identified with the Great Sphinx at Giza as Hauron-Harmakhis. He was depicted as a sphinx or a falcon. He was worshiped at Giza and elsewhere.

HEKA "Magic." Personification of magic or creative energy. He was depicted in human form in the sun bark, together with Hu, or "authoritative utterance," and Sia, or "planning percipience," all aspects of the creator-god. Heka was also worshiped as a divine child, especially in the western Delta and at Esna (Isna, Iunyt, Lato-polis).

HORUS "The distant one" (?). God of the sky and of kingship. Depicted as a hawk or falcon, or as a man with a hawk's head. He absorbed several local gods with hawk form and was linked with the sun-god as Re-Harakhty, "Re-Horus-of-the-horizon," and with Osiris and Isis as Harpocrates, "Horus-the-child," or Harendotes, "Horus-who-protects-his-father," or Harsiese, "Horus-the-son-of-Isis." He was worshiped in many places, among which the oldest may have been Nekhen (Hierakonpolis, Kom al-Ahmar).

IMHOTEP Deified official of King Djoser of the Third Dynasty. He was later considered to be a patron of scribes, healers, sages, and magicians, and was regarded as the son of the god Ptah and of a woman called Khreduankh. He was portrayed as a human being sitting on a chair with an open papyrus roll on his lap, and was worshiped at Memphis and Thebes.

ISIS Sister and wife of Osiris and mother of Horus. She was a mother goddess but she also specialized in protective magic. Like Hathor, with whom she is often identified, she became one

of the most universal goddesses of Egypt. She was usually shown as a woman with the hieroglyph for "throne" on her head. She was the subject of major cults on the island of Philae in the First Cataract, and at Bahbayt al-Hagar (Hebyt, Iseum) in the Delta.

IUSAAS and **NEBETHETEPET** "She comes, being great" and "mistress of the vulva." Pair of goddesses, personifying the male and female organs. Iusaas was represented as a woman with a scarab on her head, Nebethetepet as a woman with either the crown of Hathor (cow horns and sun-disk) or a naos-sistrum on her head. Both of them were consorts of Re-Atum, and were called "Eye of Re" and "Hand of Atum." They were worshiped at Heliopolis in a temple called Hetepet, and elsewhere.

KHEPRI "He who is coming into being." Form of the morning sun (the other forms being Re, the midday sun, and Atum, the evening sun). Usually rendered as a scarab, symbol of spontaneous life but also occasionally in human form with a scarab for a head. He was worshiped at Heliopolis and elsewhere.

KHNUM Ram-headed creator god who was worshiped in the cataract area around Elephantine, where he formed a triad with the goddesses Satis and Anukis. Other important cult centers were at Esna and at Herwer near Hermopolis in Middle Egypt. He was known as a creator god, not only because of the procreative powers of the ram but also because he molded gods, men, and animals on a potter's wheel.

KHONSU "The wanderer," or "He who comes and goes." Moon-god who was usually depicted as a child wearing the sidelock symbolic of youth but sometimes also with a hawk's head. In both cases he wore the sign of the moon on his head. In the triad of Karnak, he was the divine child of Amun and Mut. He had an important temple in the precinct of Amun at Karnak.

MA'AT Personification of cosmic and social order. Shown as a woman with an ostrich plume on her head. Daughter of Re and, like many other goddesses, often called Eye of Re. She had a temple in the precinct of Montu at Karnak, but she was also worshiped in many other temples.

MERET Divine songstress and musician. The two Meret goddesses are usually depicted with raised arm and with the heraldic plants of Upper and Lower Egypt on their heads. Although they played an important role in ritual on the divine level, they had no local cult center.

MIN Mummiform god with erect penis, wearing a

Continued on the next page.

Continued from the previous page.

cap with two plumes, and right arm raised with a flail. He was chiefly a fertility god, but he also protected the tracks in the Eastern Desert; he was worshiped at Koptos (Qift, Gebtu) and Akhmim (ancient Khem, Panopolis).

MONTU Ancient principal god of the Theban area, who was specialized as a war god during the New Kingdom. Normally shown as a hawk-headed man, wearing the sun-disk, usually with a double uraeus, and two plumes. He was worshiped at Karnak and in the neighboring towns of Armant, Tod, and Medamud.

MUT "Mother." The name of this goddess was written with a hieroglyph depicting a vulture, symbol of femininity and motherhood. She was usually shown as a woman wearing the double crown, but as she was often identified with Sakhmet, she could also be depicted as a lioness-headed woman. From the Eighteenth Dynasty on, she was the consort of Amun. Her most important temple was at Karnak, where she had a separate precinct south of Amun's.

NEFERTEM God of the lotus that appeared from the primeval waters at the beginning of the creation. He is usually represented as a human figure with a lotus on his head or as a child sun-god seated on the lotus. In Memphis he was the divine child in a triad with Ptah and Sakhmet.

NEITH Primeval goddess, sometimes said to be both male and female. Goddess of war and hunting, who usually wore the Red Crown of Lower Egypt or an emblem consisting of two crossed arrows and a shield. Her most important cult centers were Sais and Esna.

NEKHBET "She of Nekheb (Elkab)." Tutelary goddess of Upper Egypt who, together with Wadjet, the goddess of Lower Egypt, protected the king. She was depicted as a vulture or as a woman wearing the "vulture cap," sometimes surmounted by the White Crown of Upper Egypt flanked by two ostrich plumes. Her most important temples were in the area of Elkab.

NEPHTHYS "Mistress of the House." Depicted as a woman with the hieroglyphs of her name on her head. Inseparable sister of Isis, whom she helps to protect Osiris. Often said to be childless herself she played the role of the divine wailing woman and wet nurse. She was nominal consort of Seth, with whom she was worshiped in Middle Egypt.

NUN Personification of the primeval waters, who was before and outside the organized cosmos and, hence, called "Father of the Gods." He was sometimes depicted as a human being, whose

lower body was hidden in unfathomable depths and upon whose hands the bark of the sun-god was raised aloft from the waters at sunrise. With Naunet, his female counterpart, Huh and Hauhet, Kuk and Kauket, and Amun and Amaunet, he and they formed the Ogdoad (Eight Gods) of Hermopolis, who embodied the characteristics of the world before creation.

NUT Sky goddess depicted as a nude woman arching over the earth-god Geb. At night the sun-god entered her body through her mouth to be reborn from her womb in the morning; hence, she became a goddess protecting the dead. She also was sometimes described as a sow giving birth to her children, the heavenly bodies, and then swallowing them. She had no special cult center but was worshiped with her children Osiris, Isis, Seth, and Nephthys, and with other members of the Ennead, at Heliopolis.

OGDOAD, see **NUN**

ONURIS "He who brings the distant (goddess)."

The name referred to the myth of the Solar Eye who had gone to the south and was pacified and brought back by Onuris. He was rendered as a man wearing a crown of four plumes and carrying a spear, or sometimes a rope, suggesting the capture of the wild lioness who became a peaceful cat. He was often identified with Shu, but his role in the myth of the Solar Eye could also be played by Thoth. He was worshiped with the local lioness-goddess Mehit in the area of Abydos (Araba al-Madfuna) in Upper Egypt; another cult center was at Sebennytyos (Sammannud) in the Delta.

OSIRIS God of regeneration usually shown in the form of a mummy wearing the crown of Upper Egypt flanked by two ostrich plumes and carrying the *heqa* scepter and the flail. He was killed by his brother Seth but was resurrected by Isis to become lord of the underworld, his son and reincarnation, Horus, ruling on earth in his place. He was also a god of the resurgent vegetation. His most important cult centers were Abydos and Busiris (Abusir in the Delta).

PTAH "Fashioner." Divine craftsman who created the cosmos with heart (thought and will) and tongue (word). Shown as a man wearing a close-fitting garment like a mummy and a close-fitting blue skullcap like the craftsmen whose patron god he was. He did not wear the usual curved beard of the gods but a straight one. He was worshiped at Memphis, where he formed a triad with Sakhmet and Nefertem, and elsewhere.

QADESH (QUDSHU, QEDSHET) Semitic goddess in-

roduced into Egypt during the New Kingdom. Her name was an epithet of West Semitic goddesses: the Holy One. She was depicted as a nude goddess, and unlike most Egyptian deities, she was shown nude in full frontal view, standing on a lion with both lotus flowers and snakes in her hands, thus expressing exotic sensuality. Qadesh is attested from various places, but she had no important cult center.

RE Sun-god, worshiped as creator and sustainer of the cosmos, traveling in a bark along the sky by day and through the underworld by night. He was usually depicted in human form with a sun-disk on his head, but often also hawk-headed (as Re-Harakhty, "Re-Horus-of-the-Horizon") or ram-headed (as the nocturnal sun who unites with Osiris). He was combined with many other gods and worshiped in many places, but especially at Heliopolis as Re-Atum and Re-Harakhty and at Karnak, which was termed "Southern Heliopolis" (the southern counterpart of the "real" Heliopolis in the north), as Amun-Re.

RENENUTET "Snake who nourishes." Goddess of the harvest who nursed both the king and the grain god, Nepri. Depicted as a cobra or as a woman with a snake's head, she had a special cult at Madinat Madi (Narmouthis) in the Faiyum. She survived the disappearance of the Egyptian religion to become a Christian saint, Thermuthis, the daughter of the pharaoh who raised Moses.

RESHEP West Semitic god introduced into Egypt during the New Kingdom. Depicted as a Syrian wearing a pointed beard, a conical headdress with a gazelle's head attached to its front, and a short skirt with tassels, he carried a shield and spear and brandished a battle-ax. Attestations of his cult are found all over Egypt, but he had no important cult center.

SAKHMET "The most powerful one." One of the many forms of the Eye (or Daughter) of Re, usually depicted as a woman with the head of a lioness. Often worshiped at the entrances of wadis, especially in Upper Egypt; she was said to have halted there on her journey back from Nubia, to which she had retreated after a quarrel with her father, Re. Her principal cult center was Memphis, where she became the consort of Ptah and mother of Nefertem. As the Eye of the Sun she was destructive and beneficent at the same time, spreading as well as curing disease and protecting the king and his subjects as well as attacking his enemies.

SATIS Goddess of the region of the First Cataract,

where she was worshiped as the consort of Khnum and the mother of Anukis in the triad of Elephantine. She was rendered as a woman wearing the crown of Upper Egypt flanked by two antelope horns.

SELQET (SELKET, SELKIS) "She who causes (the throat) to breathe." Protecting and healing goddess, depicted as a woman wearing a water scorpion on her head. If she had a special cult center, it may have been in the western Delta at Kedam, between Sais and Buto (Tell al-Fara'in).

SESHAT Goddess of writing, learning, and libraries. Depicted as a woman often wearing a panther skin and with her special five-horned emblem (which has not been successfully explained), above her head. No special cult center is known.

SETH God of confusion, who murdered Osiris and fought with Horus, but who also repelled the dangerous Apopis snake. The divine foreigner in the Egyptian pantheon. He was shown as a fabulous animal (the so-called Seth-animal) or as a man with that animal's head. He was worshiped at Ombos (Naqada) in Upper Egypt and elsewhere until his demonization in late times.

SHAY Personification of "destiny" (translation of Shay). Protecting god and also an aspect of the human person, he was depicted as a man and also as a snake. He had no special cult center but was worshiped locally in temples with other deities.

SHED "Savior." Name or epithet of Horus and of several other deities. This helper of humanity in times of distress was recognized as a distinct deity from the New Kingdom on, and was shown as a naked child, often with the head of a gazelle attached to his forehead. He was worshiped at Dayr al-Madina in western Thebes and elsewhere.

SHU God of the void between heaven and earth and of the air and light that filled the void, and therefore often shown separating his children Geb and Nut. He and his sister, and wife Tefenut, were created by Atum through masturbation and expectoration. As the first exclusively male being, Shu had some aggressive and bellicose traits and as such was connected with Onuris. Depicted as a man with a feather on his head or with a lion's head, he was worshiped at Leontopolis (Tell al-Muqdam in the Delta) and elsewhere.

SOBEK God of swamps and rivers, and of fertility—embodying both the beneficial and the dangerous aspect of the water; son of Neith. He was rendered as a crocodile or as a man with a crocodile head.

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dile's head, and was widely worshiped, especially in the Faiyum and at Kom Ombo.

SOKAR Sokar was a god of death and resurrection, like Osiris, and a god of craftsmanship, especially metalwork, like Ptah. He was depicted as a man with a falcon's head but occasionally also as a man wearing a crown consisting of a sun-disk, double ostrich plumes, and ram horns, like Tatenen. He was worshiped at Memphis, especially in its vast necropolis, but through his links with Osiris his cult spread to many other places.

TATENEN God of the depths of the earth. From the New Kingdom and combined with or identified with Ptah, this deity is often associated with the primeval hill, his name being interpreted as "Risen Land." Depicted as a man wearing a crown consisting of a sun-disk, double ostrich plumes, and ram horns. He was worshiped in the Memphite area and elsewhere.

TEFENET Daughter of Atum, sister and consort of Shu, Eye of Re. The first female being, who had to be appeased with wine, music, and dancing so she would not turn into a fierce lioness. She was represented as a woman, a lioness, or a woman with the head of a lioness, sun-disk, and uraeus. She was worshiped at Leontopolis and combined with various local goddesses in many other temples.

THOERIS "The great (goddess)." Popular protective goddess, especially for women in childbirth and young mothers; known under several names. Shown as a composite being with the body of a pregnant hippopotamus with pendulous human breasts, the paws of a lioness, and the tail of a crocodile. Sanctuaries at Thebes and elsewhere.

THOTH Moon-god, scribe of the gods, god of learning and writing, and god of wise government. As the divine arbitrator he mediated in the conflict of Horus and Seth. He was depicted as an ibis or a man with a head of an ibis, or as a baboon. He had two principal cult centers, in Upper and Lower Egypt, both called Hermopolis.

WADJIT Tutelary goddess of Lower Egypt who, together with Nekhbet, goddess of Upper Egypt, protected the king. She was represented as a cobra, and was also shown as a woman with the head of a lioness and a cobra on her forehead. She was worshiped at Buto in the Delta.

WEPWAWET Protective god who opened the ways for the king and for the dead, depicted as a standing black jackal. He was worshiped at Asyut (ancient Lykopolis) and at Abydos, where he was usually divided into an Upper Egyptian and a Lower Egyptian Wepwawet and where he was linked with the funerary god Osiris.

a panther skin is sometimes called Iunmutef, as if he were the god of that name. Sometimes the *sem* priest is said more precisely to be the image (*tjt*) of Iunmutef. These examples could be multiplied; priests could also impersonate their god by wearing a mask in ritual, as in the case of embalming priests who wore a mask of Anubis, the embalmer god.

There is a more problematic example. The title of the priest of the ill-reputed thunder-god, Seth, who caused so much commotion by his deeds and behavior in the world of the gods, was said to be *shed-kheru* (*šd-hrw*). This expression means "he who raises his voice," or "causes commotion," or "kicks up a row." The evidence does not suggest that this title indicates the social position and behavior of the priest of Seth. It might simply be a nickname given by outsiders who abhorred Seth. Both officials and priests often declared in their ideal autobiographies that they had never committed the actions of

a *shed-kheru*, that they always reproved such actions, and indeed that they abhorred *shed-kheru*.

However this may be, we shall not go far wrong if we assume that many priests entered their priestly vocation and performed its functions with much humility, sincerity, devotion, and godliness, as is asserted in the following passage from an autobiographical text of about 850 BCE on installation and initiation into the priesthood of Horus:

I was given access to the god when an excellent youth. I was introduced into the horizon of heaven (temple) to sanctify the mysterious image of the god who is in thebes, to satisfy him with his offerings.

After I came from Nun (the primordial waters), had rid myself from all that was evil in me, had exchanged evil with purity, and had loosened clothes and ointments according to the purification of Horus and Seth, I entered into the presence of

the god in the holy place while I was afraid and in awe of him.

The king praised me; he made my position. He appointed me in the steps of my father.

(Jansen-Winkel, pp. 172, 532; Kruchten, p. 183)

The text presents the royal nomination and endorsement of an inherited right, as well as a brief characterization of priestly duties as being to sanctify the image of the god and to satisfy him with offerings. This is the core and kernel of the daily temple ritual (treated in the next section of the text). The description of purification points to a ritual of initiation comparable with the initiation into the mysteries of Isis in Rome reported by Apuleius in the second century CE. The initiate comes from the primordial waters, which signifies a symbolic death and rebirth. During the ritual of initiation, he seems to be purified by priests wearing the masks of the gods Horus and Seth as if he were to be enthroned like a king, because in Egyptian iconography it is always a king or a god who is purified by these gods. It is most impressive that the old priest hints at the personal religious experience he had, or should have had, when as a young man he first entered as a priest into the divine presence in the temple sanctuary, stating "I was afraid and in awe of him."

WORSHIP

The priestly task of sanctifying the image of the deity and of satisfying him or her with offerings, as mentioned in the text just cited, was performed in the daily temple ritual. It seems that basically the same daily liturgy was celebrated in all the country's temples. Special names, rites, spells, and hymns relating to the deity of a particular temple could be added, particularly on festival days. The daily temple ritual is known from papyri and temple reliefs from Karnak, Abydos ('Araba al-Madfuna), Edfu (Idfu, Apollinopolis Magna), and other places, dating from the New Kingdom and later, that is, from a time when the priesthood had become a professional group. The temple service may nonetheless have been much older, going back to the Old Kingdom. The liturgy is based on that celebrated on behalf of the sun-god at Heliopolis, a city which exer-

cised a far-reaching religious influence in early times.

Furthermore, the daily temple service resembled in many ways ceremonies performed for the pharaoh at court. The priests symbolically accorded to the cult-image the care that any high-ranking personage required. From rising in the morning to retiring at night, the god was washed, dressed, perfumed, fed, and entertained with music, songs, and fine words; all these attentions made him disposed to do what was needed in order to maintain order and justice (*ma'at*) in the cosmos. Some features of the daily temple ritual may go back to times immemorial and may be inherited from pre-Egyptian cultures and religions. Elements comparable to Egyptian temple ritual can be found in more recent religions. Thus, in liturgies of Christian churches there are aspects of the unworthy priest in the Introit, Kyrie, and Agnus Dei; there is also the Elevation or offering of bread and wine, as well as worship in the Gloria and Sanctus. Rather than pursuing these comparisons and the many details of the liturgy, I shall summarize the course of the ritual and add some remarks on its significance.

Before dawn, offerings were prepared and libation vessels filled, and these materials were brought into the temple and consecrated. A special priest on the temple roof measured and indicated the hour of night and day, so that rituals were performed at the precise moment required. The priest officiating in the name of the king entered the temple reciting a declaration of innocence. He was ceremonially purified, dressed, and invested. A torch was lit in the darkness, a censer and incense were picked up, and incense was put on the flame while appropriate spells were recited and hymns were sung. Then the officiating priest marched at the head of a solemn procession toward the sanctuary. He mounted the steps of the god's shrine, probably alone, and opened the shrine doors when the sun rose and began its ascent in the eastern sky. The principal singer intoned the morning hymn, "Rise, great god, in peace! Rise, you are in peace." The choir answered, singing: "You are risen, in peace." At Edfu the hymn was very long, with seemingly endless solos and refrains, including addresses to the many gods and goddesses in the temple, the members and insignia

of the god, and individual parts of the temple, all of which were bidden to rouse themselves from slumber.

After the long hymns, the priest uncovered the god's face, beheld him, kissed the ground, and lay down prostrate on his belly. Then he stood and prayed with his arms hanging down in a gesture of respectful humility, repeating his recitations four times so that they reached the four cardinal points and the cosmos was full of the god's glory: "I worship your majesty with the chosen words, with the prayers that enhance your prestige, in your great names and in the holy manifestations under which you revealed yourself on the first day of the world. . . ."

Then incense, myrrh, and a golden image of the goddess Ma'at, symbolizing order and justice, were presented, all with appropriate spells and accompanied by a long hymn praising divine order and justice. The presenting of Ma'at may have been followed immediately by the offering of food and drink, but it seems more likely that the rites of the toilet and sanctification of the cult image were performed beforehand.

After the adoration of the god and the presentation of Ma'at, the priest laid his hands upon the god, took the cult image out of the shrine to perform the toilet, divested the image of the clothes and ornaments in which it had been arrayed the previous day, and cleansed away the ointments. He then placed the image facing south (the primary orientation) on a heap of sand, cleaned the shrine, fumigated it, and sprinkled water. He painted the cult image's eyes with green and black cosmetics and anointed it with various unguents and oils. He dressed the image with cloth of four different colors—white, blue, green, and red—and offered the god his insignia, scepters, crowns, and other ornaments. It seems that, in some temples at least, this part of the ritual, from the offering of Ma'at on, was not performed by the high priest but by a colleague, called by the Greeks the *stolistes*, "the one who enters the sanctuary to dress the gods with their apparel." As throughout the ritual, this divine toilet was accompanied by the recitation of many solemn formulae.

After the toilet ritual and before the closing ceremonies, some or all of the offerings of food and drink that had been brought into the temple and consecrated before dawn were presented to the god. It seems that of all the meats, bread,

cakes, vegetables, and fruits heaped up in the offering hall, only a small part was solemnly laid before the god on an altar, table, or mat and elevated by a priest reciting appropriate formulas. The offering formula began with the words "An offering which the king gives" and continued with a list of what was offered. The god was summoned to the offerings with special spells, and hymns were sung. The meal was consecrated with prayers and gestures. As in other ritual contexts, water was libated and incense burned. After the god had been satisfied, the offerings were presented to the other gods and goddesses of the temple, who had been propitiated with comparable but more sober rituals of sanctification. The offerings were then presented to statues of deceased kings, priests, and other officials and finally taken out of the temple and divided for consumption by the priests according to their rank and position.

The closing ceremonies comprised the veiling of the god's face in his shrine, several purifications with water, natron, and incense, and the sealing of the shrine. After a last fumigation with incense, the priest swept away the traces of his footsteps on the sand covering the floor of the sanctuary and closed its doors.

Besides the daily temple ritual in the morning, a midday service and an evening service before sunset were celebrated. There is evidence that in some temples, rituals with cosmological significance were performed in each of the twelve hours of the day and of the twelve hours of the night.

The recitations performed during the ritual show that the aim of worship was not just to honor the god of the temple because he was worthy of praise. The priest wanted something from the god, namely that he be present, awake, benevolent, and so forth. When the torch was lit at the beginning of the ritual, the priest recited, "Welcome, Eye of Horus, which is glorious, complete and youthful. It shines like Re in the horizon and the power of Seth hides itself immediately from the Eye of Horus." This was a theological exegesis and sacralization of making fire in this ritual context. The priest announced the victory of light and the day and the driving away of the powers of darkness.

However, the texts imply still more. The priest officiating in the temple officiated symbolically in the world of the gods. He represented the



Relief of Horus and Seth libating and purifying Sety I. The water pouring from the gods' jars is represented as a stream of *ankh*-signs, signifying "life." Great Hypostyle Hall at Karnak, west wall, north side, second register. HAROLD H. NELSON AND WILLIAM J. MURNANE, *THE GREAT HYPOSTYLE HALL AT KARNAK, VOL. 1, THE WALL RELIEFS*, THE ORIENTAL INSTITUTE OF THE UNIVERSITY OF CHICAGO (1981)

king, and as such was himself a god who partook on the divine level in the interplay of gods, powers, and symbols of myth and cosmos. This does not mean that he considered himself to be a solitary, free, and almighty "magician" upon whose word and deed the rising of the sun depended. Elsewhere in the same ritual, the priest says: "I am a prophet, the son of a prophet of this temple. I shall not linger. I shall not turn back. I am a prophet. I have come to perform the ritual. Indeed I have not come to do that which is not to be done." The priest had to play his divine role in the cosmic process carefully and in an orderly manner. He had to do, and

did, what was necessary in order for the world to recover its harmony and maintain itself without any disasters occurring.

In a sense the priest helped to bring about the sunrise by lighting the torch in the temple ritual. He did this in the way prescribed by the old ritual texts, not so much out of fear or out of a conviction that the sun would not rise if he did not make light in the temple as because one has to come to terms with the cosmos. Otherwise, the sun might rise, but its rising would have no meaning for the country's welfare, for victory over death and enemies, and for everything that the Egyptian worldview associated with sun-

rise. The creation theology that was practiced or performed in the cult did not simply commemorate the great mythological deeds of the gods or express the coherence and process of the created world; it was, in effect, creation itself. An Egyptian term for performing ritual is "doing things." The priest had to "do things" to make sure that the order of the cosmos would be maintained and that the universe, the state, and the individual would continue their ordered existence.

Countless liturgical acts, such as the lighting of the torch in the temple and many offerings, were called the Eye of Horus. The eye—that is, the eye of the sun and the Eye of Horus—was one of the most important Egyptian religious symbols. Without entering into mythological details, it can be said that the Eye was a symbol of all that is good and holy and is restored to sound and undamaged condition. The Eye signified the salvation of cosmos, society, and individual. In the offering ritual described above, the priest recited: "Come to these offerings. . . . I know the sky. I know the earth. I know Horus, I know Seth. Horus is appeased with his eyes, Seth is appeased with his testicles. I am Thoth who reconciles the gods." Here not only the Eye of Horus but also its more negative counterpart are mentioned. The sacrifice was not so much a gift from men to the gods as a sacred act through which men could contribute to restoring and maintaining cosmic harmony. The priest could do this because he took on a divine role, in this case that of Thoth. As we have seen from several priestly titles, he could impersonate the god. He was able to speak on behalf of the god as if he were the god himself and thus give oracles to men. However, divine possession and ecstasy as they appear in other religions hardly existed in Egypt, if at all.

Oracles were mainly given during festivals, when the god appeared in procession outside the temple. The daily ritual was celebrated in the temple by a strictly limited number of priests, and the general public had no access to it. In contrast, festivals always included processions during which the processional statue of the god, enclosed in a small wooden shrine and placed on a portable bark, was carried out of the sanctuary on the priests' shoulders. Some of these processions were restricted to the temple or the temple precinct. Often, however, the god

was carried outside the precinct and through the town. He might even visit temples and places farther away. Every temple had its own festival calendar. Festivals seem to have been celebrated about every four or five days. During a calendar year, at the Ptolemaic temple of Edfu, there were more than forty festivals varying in length from one to a maximum of fifteen days, the latter when the goddess Hathor of Dendara (Iunet, ancient Tentyra) visited her divine consort Horus there. The New Year festival, the Coronation of the Falcon, and the Festival of Victory, in which a sacred drama of the myth of Horus and Seth was enacted, were other important festivals at Edfu. The mysteries of Osiris were celebrated at Abydos and elsewhere. The Festival of Opet, which lasted more than a month, and the Festival of the Wadi were famous festivals at Thebes. The general public and the pilgrims coming from afar rejoiced and acclaimed the god when he passed in procession. It seems that what the public saw of the god was not so much the holy image itself as his closed shrine.

People could ask the god all kinds of questions, to which the god's oracle answered either yes or no. The positive or negative answer was deduced from the movements of those who carried the bark. Questions could also be asked in written form, and the priest could issue oracular decrees in writing. Priests could also give oracles orally, sometimes through the intermediary of a speaking statue. The famous oracle that Alexander III "the Great" received in the Oasis of Siwa seems to have been given orally. Oracles are attested from the New Kingdom on, that is, from the time when the priesthood emerged as a professional group. But the gods are not likely to have waited to vouchsafe their word until there were full-time professionals to transmit their messages.

It is obvious, however, that divine intervention through priestly oracles enhanced the priesthood's position. Priests could and did influence the social and political impact of oracles in many ways. Nonetheless, they had to reckon with the social and political situation; the truth and validity of an oracle could also be doubted. It seems that the Greeks rendered the priestly function and title "servant of the god" by *prophetes* because of their task of giving oracles. The more elaborate title, "servant of the god

who carries the message" (*hm ntr wḥm*), states this role.

THEOLOGY

I have already touched upon intellectual aspects of the Egyptian priesthood. Egyptian priests belonged to the elite; they were state officials and servants of pharaoh. They had to observe rules of purity. They were supposed to be god-fearing. They performed rituals to sanctify the divine image and satisfied the god with offerings; they impersonated the gods and gave oracles. But were they also theologians? What of the renowned sacred knowledge of the Egyptian priests?

Chaeremon, who was cited above, stated that the Egyptian priests "were considered also as philosophers among the Egyptians, that they chose the temples as the place to philosophize." He wrote:

They divided the night for the observation of the heavenly bodies and sometimes for ritual, and the day for worship of the gods in which they sang hymns to them three or four times in the morning (and the evening) when the sun is on the meridian and when it is descending to the west. The rest of the time they spent with arithmetical and geometrical speculations always trying to search out something and to make discoveries and in general always busy with the pursuit of learning.

(Pieter Willem van der Horst, comp.,
Chaeremon, pp. 17, 21)

Chaeremon provided more information, too much to be quoted or discussed here. His picture of Egyptian priests is on the whole idealized and romanticized and accords more with Hellenistic ideas about saintly philosophers than with the historic reality of the Egyptian priesthood. It is a question of definition whether Egyptian priests, or at least some of them, should be called philosophers (although we are accustomed to the idea that philosophy began with the Greeks, and that Egyptian intellectual efforts to understand men, gods, and cosmos should be characterized as being "before philosophy," to cite the title of an influential book edited by Henri Frankfort). It is also debatable whether one should replace the term "philosophy" with "theology." Some scholars wish to reserve the

term "theology" for the religion to which they themselves belong or to religions of more modern times, while others find it difficult to take the theology of any culture seriously. Here I use the word "theology" to designate the intellectual efforts of the Egyptians to understand men, gods, and cosmos because the results of these efforts were considered to be sacred knowledge. With the emergence of the priesthood as a separate professional group, the pursuit of sacred knowledge became restricted increasingly to specialized priests or theologians and to an institution within the temple precinct called the House of Life.

There is little or no evidence for theological study by, or intellectual examination of, candidates for the priesthood. One or two late sources mention literacy or the ability to read hieratic texts as prerequisites for entering the priesthood that were supplementary to heredity, or belonging to a priestly family, and circumcision. But it goes without saying that the candidates for the priesthood, who were recruited from elite families, were literate. It is well known that the school program included some religious education. Not only literary texts, such as *The Story of Sinuhe* and Wisdom texts, but also some hymns to the gods were studied and learned by heart. This implies that those who began a priestly career would already have had some superficial theological knowledge. Knowledge of sacred writings in hieroglyphs (*mdw-ntr*, literally "words of the god"), however, was restricted to the temples. In a demotic story, it is told that after Siosiris, the son of Setna-Khaemwese, had completed his elementary scribal education, "he began to recite (study) writings with the scribes of the House of Life in the temple of Ptah." It seems that the famous but rather mysterious institution of the House of Life was not only a location, a building within the temple-precinct where theological, medical, and other sacred texts were written, copied, and studied and where secret rituals were performed; it was also a sort of school for advanced studies. This does not mean that everyone who entered the priesthood had to take courses in the House of Life. It seems that many were prepared for priesthood in a more practical and individual way as apprentices of such senior priests as the "fathers of the god." Bakenkhonsu relates in his autobiography, "I was instructed into priesthood in the temple

Organization of Sacred and Secular Knowledge

JOHN BAINES

Religious knowledge in Egypt was doubtless oral in origin and continued throughout history to be transmitted through social institutions involving much personal contact, recitation, and reading aloud. The social forms that sustained cultural knowledge will have extended through precept, rituals, and performances to architectural forms and other works of art. Writing was, however, vital to the development and preservation of knowledge in the very long term, and the forms of religious and secular knowledge, which developed together, were profoundly affected by the potential and limitations of written forms.

The high-cultural knowledge of formative periods is not easily accessible. Its visible manifestation in rather later periods is confined to writings and works of art that were available to few. While something can be said about the religious knowledge, secular "science" and sense of progress in the small elite, and about the maintenance of cultural tradition, hardly anything is known about such matters in the broader society.

In the third millennium BCE, the principal subjects of organized knowledge for which evidence is preserved were religious. Much significant knowledge was esoteric and could be alluded to but not discussed or displayed in public. This restriction seems to have applied to the ideas underlying the central cult of the sun-god and the king's role in sustaining it. Vital texts on this subject were composed perhaps in the Middle Kingdom but did not become more widely accessible until after the end of the New Kingdom. There is little evidence for the recording of important knowledge in continuous texts in the third millennium. Crucial materials were nonetheless written down, including the daily ritual for the cult of the gods and funerary rituals, as well as magical incantations and probably medical knowledge—so far as those two can be distinguished.

The Egyptians codified important cosmological and religious knowledge in the form of lists and of hybrid compositions mixing pictorial representations and written captions. Both these genres go back to a time before writing recorded continuous language. Despite the heavily pictorial character of these forms, they too were addressed to the literate few. Among the lists was one enumerating the deities of the Memphite area, which two high officials and priests of the late Fifth and Sixth dynasties used to construct a set of artificial priesthoods that both displayed and disguised their access to this important source. Still more distinctive is the composition in the solar temple of the Fifth Dynasty king Neuserre that displays the sun-god's creation and maintenance of the natural world and the presentation of its bounty back to its creator. This was carved as a set of reliefs within the temple, where only cult personnel entered. Among its sub-

jects are detailed "zoological" observations of such phenomena as the mating habits of birds and antelopes and the migration patterns of fish, expressed in cryptic captions. Here, "science" and the sacred were inextricably enmeshed.

With the emergence of discursive literary texts in the Middle Kingdom, this tradition diversified. The most distinctive compositions in the pictorial-textual form are cosmographies describing the day and the night world of the sun-god; astronomical knowledge was sometimes presented in a similar form. The cosmographies are known from New Kingdom copies but some may have been composed in the Middle Kingdom. The Underworld Books are complex works that present an encyclopedic vision of their subject and are said to be beneficial to those who know them. The *Amduat*, the longest of these books, also existed in a short version rather like an abstract, and the deities and demons represented in it were gathered into a kind of pictorial index. The earliest known copies of these books were inscribed in the tombs of New Kingdom kings, and the knowledge they embodied cannot have been disseminated beyond a very small circle. Unlike Old Kingdom compositions, these works included extensive passages in continuous language.

Encyclopedic knowledge was also recorded in continuous lists known as onomastica, a genre comparable with the Mesopotamian lexical tradition but lacking its bilingualism. These texts have a possible Old Kingdom precursor and are otherwise known from the Middle Kingdom to the Roman period, but they do not seem to have formed an effective continuous tradition.

This pattern of transmission of significant knowledge encompasses the sacred and the secular, the pragmatic and the abstract. In Egyptian terms, the crucial "science"—for which there was no word—concerned the next world as much as, for example, the understanding of disease and of the human body. Two of the most important medical compositions, the general compilation of Papyrus Ebers and the surgical treatise in Papyrus Edwin Smith, were probably found together in a tomb of the early New Kingdom; their owner may have seen them as valuable to him in the next life.

This intertwining of sacred and secular had profound implications for theology and for the position of temples. In later periods, the temples were the principal repository of written high culture and of many of its artistic manifestations. The mixture of the sacred and the secular and of closely religious and broader materials characterized Egyptian traditions to the end. The hierarchical restriction of sacred knowledge may also have endured, although the clearest evidence for this feature comes from earlier periods.

of Amun under the hand of my father,” who was Second Prophet of Amun. Moreover, there is no proof that all the major temples of every period had a House of Life.

In all periods, the priestly knowledge one had to acquire principally concerned ritual. In the first instance, theology had to be practical. To be able to perform the ritual, to do things (*jrj ht*), required that one know things (*rh ht*). But “knower of things” is one of the titles of the scholars of the House of Life. When lay priests of earlier times claimed knowledge about religious matters and secret things, the knowledge in question was ritual knowledge, ritual formulae (*hkʿw*), “words of the god” (*mdw-ntr*), and rites (*ht*). The Sixth Dynasty official Harkhuf held among other titles that of “lector priest.” It is stated that he was one who “knew his spell.” This must mean not only that he knew the spells in question by heart and could read and recite them in the right way, but also that he understood them and knew what they meant. This does not imply that he would explain a spell to anyone who was interested in an explanation. Egyptian priests had no parishes, and they did not preach. They were not permitted to divulge sacred knowledge. Theological and sacred knowledge was restricted to theologians and kept secret. It was transmitted orally within the temple precinct and written down in hieroglyphs, which only the priests, who were conversant in the words of the god (*šsʿ m mdw-ntr*), could read. The Egyptian term “words of the god” can be translated “hieroglyphs” or “sacred text.” Hieroglyphic texts were ritual and secret texts. One man boasted about his restricted secret and sacred knowledge with the words, “I know the secret of the hieroglyphs.”

The title *hrj-hb* is usually rendered “lector priest.” It means “he who carries (literally, is under) the ritual book,” and the lector priest was depicted performing this role in public processions. These men seem to have been the theological students, studying and reciting the sacred texts in the House of Life. The title is sometimes extended with the epithet, *hrj-tp*, “chief.” These “chief” or “senior lector priests” were the *hartummim*, or “Egyptian magicians,” of the Hebrew Bible. Common or chief lector priests were not priests in the sense of the servants of the god or prophets who officiated in

the daily temple ritual, although it was expected that the functions of priest and theologian could and should be combined. Before the New Kingdom, local lords were often overseers of prophets and stood at the head of the local priesthood. They claimed not just to be administrators but to have a deeper theological knowledge, as they should have had as heads of the local priesthood, and to be lector priests who knew their spells, as we have seen in the case of Harkhuf.

Because these theologians were versed in the sacred books and thus had knowledge of hidden wisdom and magic, they had a great reputation in Egyptian stories; in the temple hierarchy, however, ordinary priests were fourth in rank after servants of the god, fathers of the god, and *wab* priests. This ordering confirms that they were juniors or students.

Egyptian sacred knowledge was traditional. There was an obsession with the written word, and religious texts were authoritative not least because they were written in hieroglyphs, literally “words of the god.” The books in the House of Life, or in the specialized ritual and liturgical library within the temple called the House of Books, were sometimes termed emanations (*bʿw*) of Re, so that one must conclude that they were considered to be inspired by the sun-god.

The sacred books studied by the theologians of the House of Life contained the myths or “annals” of the gods and goddesses, catalogues of divinities, hymns and specific ritual texts, manuals for the decoration of the temples, rituals for embalming, and source texts for the *Book of the Dead* and other funerary literature as well as magical, medical, veterinary, astronomical, and mathematical books, books on the sacred geography and topography of Egypt, on history, the interpretation of dreams, and many other subjects.

In the House of Life, the sacred and secret traditions of Egyptian knowledge were brought together. In form and content, they constituted holy scripture. They were written in the sacred scripts of hieroglyphs and hieratic, not in demotic. This holy scripture contained ancient theology or philosophy, including ancient science. It was secret knowledge not to be divulged because knowledge is power; it was restricted to the elite of “the great knowers of the things learned in the emanations (i.e., sacred books)

of Re.” Abstract theological, philosophical, and scientific knowledge was kept not only in the libraries. It was also in the heads and hearts of the personnel of the House of Life, who learned the sacred texts by heart and recited them. Consultations were given to the king and to others. Sacred knowledge was also applied; the “things” were not only known but done. Ceremonies and rituals were performed in secrecy; texts were recited for the welfare of the king and also for the conservation of life in Egypt. This secret—not to say occult—knowledge was used for the benefit of all.

People cannot live in a world without order, at least in the long run. Experience shows that order is disturbed and will be disturbed, but few can accept a senseless world. In a hierarchical society such as that of Egypt, the king and the state had to provide order and justice. The pharaoh was the representative or symbol of social, cosmic, and religious order.

The theologians of the House of Life studied and reworked the sacred tradition of what had to be done in an endangered world and how the pharaoh could be protected spiritually. Priests and theologians had collected knowledge about men, gods, and cosmos and had developed models of reality, of how to come to terms with the cosmos. The reality surrounding humanity was conceived of as a process of conflicting powers of order and confusion. It was a process, not—or not so much—a progress. The cosmos, including the history of society and of individuals, was considered, hoped, and finally known to be a perpetuum mobile through life and death. That movement had to be kept going if disturbances and disasters were to be averted. Egyptian theology—the sacred knowledge of gods, men, and the cosmos—was a model of how to do things, to perform rituals, to appease gods and goddesses, and to reassure men so that they could live in peace and harmony in Egypt for thousands of years.

BIBLIOGRAPHY

Priests

A basic book for non-Egyptologists on Egyptian priests, their worship, and their intellectual and theo-

logical activities is SERGE SAUNERON, *Les prêtres de l'ancienne Égypte* (1957). There is also an enlarged and revised edition by JEAN PIERRE CORTEGGIANI (1988) and an English version, *The Priests of Ancient Egypt*, translated by ANN MORRISSETT (1969 and 1980). The articles “Priest, Priesthood,” “Purification,” and “Worship,” by AYLWARD M. BLACKMAN in the *Encyclopedia of Religion and Ethics*, edited by J. HASTINGS, 13 vols. (1908–1927), are old but not outdated and may be profitable for nonspecialist readers. Reprints of articles by Blackman appear in *Gods, Priests, and Men*, edited and compiled by ALAN B. LLOYD (in press).

Other useful works are PIETER WILLEM VAN DER HORST, comp., *Chaeremon: Egyptian Priest and Stoic Philosopher*, Études Préliminaires aux Religions Orientales dans L'Empire Romain, vol. 101 (1984); KARL JANSEN-WINKELN, *Ägyptische Biographien der 22. und 23. Dynastie*, 2 vols., Ägypten und Altes Testament, vol. 8 (1985); JEAN-MARIE KRUCHTEN, *Les annales des prêtres de Karnak (XXI–XXIII^{ème} dynasties) et autres textes contemporains relatifs à l'initiation des prêtres d'Amon*, Orientalia Lovaniensia Analecta, vol. 32 (1989); GUSTAVE LEFEBVRE, *Histoire des grands prêtres d'Amon de Karnak jusqu'à la XX^e dynastie* (1929); MARIA PLANTIKOW-MÜNSTER, “Die Inschrift des B'k-n-hnsw in München,” *Zeitschrift für Ägyptische Sprache und Altertumskunde* 95 (1969); SERGE SAUNERON, “Les Conditions d'accès à la fonction sacerdotale à l'époque gréco-romaine,” *Bulletin de l'Institut Français d'Archéologie Orientale* 61 (1962); JØRGEN PODEMANN SØRENSEN, “Divine Access: The So-called Democratization of Egyptian Funerary Literature as a Socio-cultural Process,” in *The Religion of the Ancient Egyptians: Cognitive Structures and Popular Expressions*, Uppsala Studies in Ancient Mediterranean and Near Eastern Civilizations, vol. 20, edited by CERTIE ENGLUND (1989); JACQUES VANDIER, ed. and trans., *Le Papyrus Jumilhac* (1961); and JOZEF VERGOTE, *Joseph en Égypte: Genèse chap. 37–50 à la lumière des études égyptologiques récentes* (1959).

Worship

Useful works include MAURICE ALLIOT, *Le culte d'Horus à Edfou au temps des Ptolémées*, vols. 1 and 2 (1949–1954; repr. 1979); JAN ASSMANN, *Ägyptische Hymnen und Gebete* (1975); MARIE-EVE COLIN, “Le cantique du matin au sanctuaire de Dendara,” *Mélanges Adolphe Gutbub* (1984); A. ROSALIE DAVID, *A Guide to Religious Ritual at Abydos* (1981); HERBERT WALTER FAIRMAN, “Worship and Festival in an Egyptian Temple,” *Bulletin of the John Rylands Library* 37 (1954); LÁSZLO KÁKOSY, “Orakel,” in *Lexikon der Ägyptologie*, edited by WOLFGANG HELCK and WOLFHART WESTENDORF, vol. 4 (1982); HERMANN KEES, “Der berichtende Gottesdiener,” *Zeitschrift für Ägyptische Sprache und Altertumskunde* 85 (1960); ALEX-

ANDRE MORET, *Le rituel du culte divin en Égypte* (1902; repr. 1988); and HAROLD H. NELSON, "Certain Reliefs at Karnak and Medinet Habu and the Ritual of Amenophis I," *Journal of Near Eastern Studies* 8, nos. 3 and 4 (1949).

Theology

The following are among studies that may be helpful to the reader: JAMES P. ALLEN, *Genesis in Egypt: The Philosophy of Ancient Egyptian Creation Accounts* (1988); JAN ASSMANN, *Ägypten: Theologie und Frömmigkeit einer frühen Hochkultur* (1984); JOHN BAINES, "Restricted Knowledge, Hierarchy, and Decorum: Modern Perceptions and Ancient Institutions,"

Journal of the American Research Center in Egypt 27 (1990); PHILIPPE DERCHAIN, *Le Papyrus Salt 825 (B.M. 10051): Rituel pour la conservation de la vie en Égypte*, 2 vols. (1965); MARIA-THERESIA DERCHAIN-URTEL, *Priester der Tempel: Die Rezeption der Theologie im Tempel von Edfu und Dendera in den Privatdokumenten aus ptolemäischer Zeit*, Göttinger Orientforschungen, Ägypten, vol. 19 (1989); HENRI FRANKFORT et al., *The Intellectual Adventure of Ancient Man* (1946 and 1977; known as *Before Philosophy* in some editions); ALAN H. GARDINER, "The House of Life," *Journal of Egyptian Archeology* 24 (1938); and WILLIAM KELLY SIMPSON, ed., *Religion and Philosophy in Ancient Egypt* (1989).

SEE ALSO **Palaces and Temples of Ancient Egypt** (Part 4, Vol. I); **Social and Economic Organization of Ancient Egyptian Temples** (Part 4, Vol. I); and **Ancient Egyptian Religious Iconography** (Part 8, Vol. III).

The Hymn to Aten: Akhenaten Worships the Sole God

JOHN L. FOSTER

TRANSLATION OF THE POEM

The following translation of *The Hymn to Aten*¹ is literary, rather than literal. It attempts to restore the poem's tone, rhythms, continuity, emotion, and poetic quality in general, based upon the literal evidence of the text. Quotations from the poem in the subsequent essay are literal and keyed to this translation by stanza number.

i.

Let your holy Light shine from the height of
heaven,
O living Aten,
source of all life!
From eastern horizon risen and streaming,
you have flooded the world with your
beauty.
You are majestic, awesome, bedazzling, exalted,
overlord over all earth,
yet your rays, they touch lightly, compass
the lands
to the limits of all your creation.
There in the Sun, you reach to the farthest of
those
you would gather in for your Son,

Though you are far, your light is wide upon
earth;
and you shine in the faces of all
who turn to follow your journeying.

ii.

When you sink to rest below western horizon,
earth lies in darkness like death,
Sleepers are still in bedchambers, heads veiled,
eye cannot spy a companion;
All their goods could be stolen away,
heads heavy there, and they never knowing!
Lions come out from the deeps of their caves,
snakes bite and sting;
Darkness muffles, and earth is silent:
he who created all things lies low in his
tomb.

iii.

Earth-dawning mounts the horizon,
glows in the sun-disk as day:
You drive away darkness, offer your arrows of
shining,
and the Two Lands are lively with morning-
song.

¹ From *Echoes of Egyptian Voices: An Anthology of Ancient Egyptian Poetry*, translated by John L. Foster. Copyright © 1992 by John L. Foster. Reprinted with permission of the University of Oklahoma Press.

Sun's children awaken and stand,
for you, golden light, have upraised the
sleepers;
Bathed are their bodies, who dress in clean
linen,
their arms held high to praise your Return.
Across the face of the earth
they go to their crafts and professions.

iv.

The herds are at peace in their pastures,
trees and the vegetation grow green;
Birds start from their nests,
wings wide spread to worship your Person;
Small beasts frisk and gambol, and all
who mount into flight or settle to rest
live, once you have shone upon them;
Ships float downstream or sail for the south,
each path lies open because of your rising;
Fish in the River leap in your sight,
and your rays strike deep in the Great
Green Sea.

v.

It is you create the new creature in Woman,
shape the life-giving drops into Man,
Foster the son in the womb of his mother,
soothe him, ending his tears;
Nurse through the long generations of women
to those given Air,
you ensure that your handiwork prosper.
When the new one descends from the womb
to draw breath the day of his birth,
You open his mouth, you shape his nature,
and you supply all his necessities.

vi.

Hark to the chick in the egg,
he who speaks in the shell!
You give him air within
to save and prosper him;
And you have allotted to him his set time
before the shell shall be broken;
Then out from the egg he comes,
from the egg to peep at his natal hour!
and up on his own two feet goes he
when at last he struts forth
therefrom.

vii.

How various is the world you have created,
each thing mysterious, sacred to sight,
O sole God,
beside whom is no other!
You fashioned earth to your heart's desire,
while you were still alone,
Filled it with man and the family of creatures,
each kind on the ground, those who go upon
feet,
he on high soaring on wings,
The far lands of Khor and Kush,
and the rich Black Land of Egypt.

viii.

And you place each one in his proper station,
where you minister to his needs;
Each has his portion of food,
and the years of life are reckoned him.
Tongues are divided by words,
natures made diverse as well,
Even men's skins are different
that you might distinguish the nations.

ix.

You make Hapy, the Nile, stream through the
underworld,
and bring him, with whatever fullness
you will,
To preserve and nourish the People
in the same skilled way you fashion them.
You are Lord of each one,
who wearies himself in their service,
Yet Lord of all earth, who shines for them all,
Sun-disk of day, holy Light!
All of the far foreign countries—
you are the cause they live,
For you have put a Nile in the sky
that he might descend upon them in rain—
He makes waves on the very mountains
like waves on the Great Green Sea
to water their fields and their villages.

x.

How splendidly ordered are they,
your purposes for this world,
O Lord of eternity, Hapy in heaven!

The Hymn to Aten

Although you belong to the distant peoples,
to the small shy beasts
who travel the deserts and uplands,
Yet Hapy, he comes from Below
for the dear land of Egypt as well.
And your Sunlight nurses each field and
meadow:
when you shine, they live,
they grow sturdy and prosper through
you.
You set seasons to let the world flower and
flourish—
winter to rest and refresh it,
the hot blast of summer to ripen;
And you have made heaven far off
in order to shine down therefrom,
in order to watch over all your creation.

xi.

You are the one God,
shining forth from your possible incarna-
tions
as Aten, the Living Sun,
Revealed like a king in glory, risen in light,
now distant, now bending nearby.
You create the numberless things of this world
from yourself, who are One alone—
cities, towns, fields, the roadway, the River;
And each eye looks back and beholds you
to learn from the day's light perfection.
O God, you are in the Sun-disk of Day,
Over-seer of all creation
—your legacy
passed on to all who shall ever be;
For you fashioned their sight, who perceive your
universe,
that they praise with one voice
all your labors.

xii.

And you are in my heart;
there is no other who truly knows you
but for your son, Akhenaten.
May you make him wise with your inmost
counsels,
wise with your power,
that earth may aspire to your godhead,
its creatures fine as the day you made
them.

Once you rose into shining, they lived;
when you sink to rest, they shall die.
For it is you who are Time itself,
the span of the world;
life is by means of you.

Eyes are filled with Beauty
until you go to your rest;
All work is laid aside
as you sink down the western
horizon.

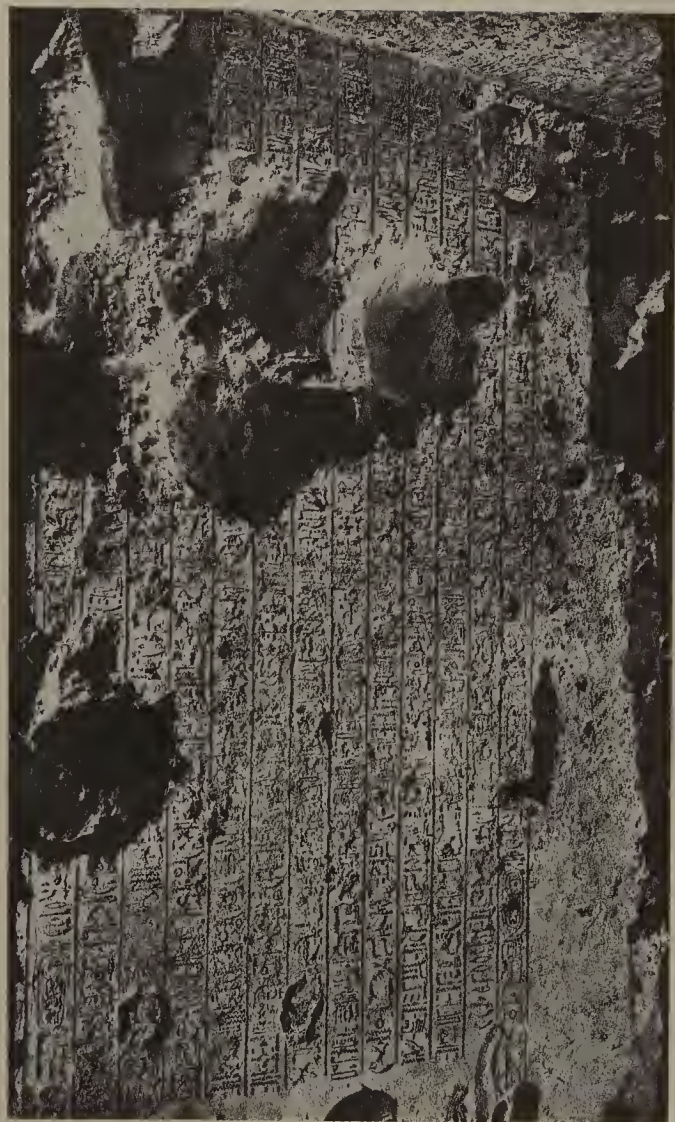
Then, shine reborn! Rise splendidly!
my Lord, let life thrive for the King
Who has kept pace with your every footstep
since you first measured ground for the
world.
Lift up the creatures of earth for your Son
who came forth from your Body of Fire!

CONTENT

Introduction

Aten as a divinity is attested since the Twelfth Dynasty, where at the beginning of *The Story of Sinuhe* (circa 1900 BCE) the dead King Amenemhet (Ammenemes) I “flew up to the sky, one united with Aten, / the divine flesh mingling with Him who made him.” References to Aten become more frequent during the Eighteenth Dynasty, especially during the reign of Amenhotep (Amenophis) III, Akhenaten's father.

Just what led Akhenaten (originally Amenhotep IV) to equate this deity with a sole God is not easy to determine; nor is there sufficient evidence to reach any firm conclusion. One theory has Akhenaten moving to suppress the priesthood of Amun, which was growing sufficiently powerful to challenge the throne—an event that did take place in the Twenty-first Dynasty. Another proposes a resurgence or re-emphasis of the sun-cult led by the priests of Heliopolis, worship of a sun-god having been fundamental to Egyptian religion at least since the Fifth Dynasty of the Old Kingdom. A third hypothesis suggests a new antipathy to the earth religion and Osiris. But whatever the contributing cultural, political, and religious reasons, it still took a final catalyst of some kind for the



The Hymn to Aten found on the tomb of Aye at Amarna. THE COMMITTEE OF THE EGYPT EXPLORATION SOCIETY, LONDON

move to monotheism; and, barring other evidence, one must attribute this impetus to the visionary personality of Akhenaten himself. Indeed, it is this necessity for individual motivation that caused James Henry Breasted, founder of American Egyptology, to designate Akhenaten "the first individual in human history," because, he felt, here one could trace the hand of an individual in wide-ranging historical events. Akhenaten's conception of God was not merely universalist—a God of all peoples and the entire earth—but he was sole God, unique, as the text of *The Hymn to Aten* clearly states (stanzas vii and xi; and see below, "God is universal" and "God is one"). (See also "The History of Ancient Egypt" in Part 5, Vol. II.)

Scholarly opinion is still profoundly divided over the nature and significance of Akhenaten and the Amarna "heresy" (Akhenaten's belief in a single god rather than the traditional polytheism of Egypt). In 1934 Breasted could also call Akhenaten "a God-intoxicated man." Yet half a century later (in 1984) Donald B. Redford could insist that "Akhenaten suffered the singular misfortune of acceding to the throne of Egypt and its empire," that he was probably "a poor judge of character and a prey to sycophancy," that he was "no intellectual heavyweight," and that in spirit he "remains to the end totalitarian" and an "atheist." Redford exempts the *Hymn* from these strictures, calling it "that magnificent poetic creation." And Cyril Aldred could say (in 1988) of the *Hymn* itself that "All the sentiments expressed . . . have little that is revolutionary about them, and would have been approved by most worshippers in the world of ancient Egypt." Or, "Its novelty lay not in what it expressed but in what it left out."

The present writer belongs with those who find *The Hymn to Aten* one of the most remarkable documents in all of ancient Egyptian history—and, indeed, in all of the ancient world. For the poet (or theologian) clearly expresses for the first time (mid fourteenth century) the concept of the One God, monotheism, gathering together many of the evanescent prior strands of thought and insights from earlier hymns in the Re-Harakhty, or sun-god, tradition; and he does so in phrases and images of striking beauty.

Atenism apparently did not penetrate deeply into the society of the time, perhaps not far beyond the royal family or court circles; nor did it much outlast the death of Akhenaten. Indeed, one might point to the fact that Akhenaten's putative coregent was named, not "Smenkh-ka-aten" but "Smenkh-ka-re," presumably while the older king was still alive. At any rate, Atenism was not congenial to the people and was anathema to the priesthoods of the other gods, and the heresy died out during the reign of Tutankhamun, with succeeding pharaohs returning to the older polytheistic religion, which lasted for the remainder of dynastic history.

The Hymn to Aten itself is a verse composition of the late Eighteenth Dynasty found carved on a wall of the tomb of Ay situated in the cliffs behind the ancient city of Akhetaten (Amarna),

capital of King Akhenaten and located in Middle Egypt approximately halfway between ancient Thebes and Memphis. Ay was an eminent member of Akhenaten's court and indeed succeeded to the throne of Egypt a dozen years after Akhenaten's death. Since the latter died about 1336, this hymn was composed sometime just prior to that date and during Akhenaten's reign, which began about 1353 and lasted perhaps seventeen years.

The *Hymn* is comprised of thirteen columns of hieroglyphs, now exhibiting several lacunae, some of which can be restored from other texts in the Amarna tombs. The piece belongs to a long tradition of sun-hymns in Egypt, in honor of such gods as Re or Harakhty; and indeed Aten, who represents Akhenaten's new understanding of the sun- and creator god, is early on in his reign (and in the introductory matter in this hymn) addressed as "Re-Harakhty who rejoices in the horizon in his name as the light which is in the sun-disk." Though the hymn appears in the tomb of Ay, the "speaker" is clearly Akhenaten himself (stanza xii, above: "and you are in my heart"). Whether the king himself composed the hymn is another matter, for there is no direct evidence either way. Its tenets and attitude, however, are certainly central to Akhenaten's entire "revolution," whether poetic, artistic, or religious.

The Attributes of God

Since the nature of Aten is primarily what makes the poem so significant, it will be useful to consider some of the attributes of this conception of God.

1. *God is one.* This is clearly the most important of the attributes. And Akhenaten says just this in stanza vii, where he is marveling at the variousness or multiplicity of the world: "O sole God; there is not another of his kind." Unlike so many other hymns (*The Hymn to the Nile*, *The Great Hymn to Osiris*, or *The Cairo Hymn to Amun-Re*), there is in this poem no reference to or hint of any of the traditional gods of the Egyptian pantheon.

2. *God is alone.* This attribute reinforces the preceding one. For instance, again in stanza vii, just after the lines quoted above, Akhenaten says, "You have fashioned the world according to your desire, / *while you were alone.*" He goes

on to enumerate several significant aspects of the creation, thus broaching the mystery of how the Many came from the One. This phrase is repeated at the beginning of stanza xi, where the oneness of God alone is contrasted with the multiplicity of the incarnations (*hprw*: "forms," "manifestations") that make him visible to the eyes of the creatures as he rises and shines. For Akhenaten, the specific incarnation of God is the divine essence of the living sun-disk, Aten.

3. *God is the creator of the universe.* This is a traditional attribute of the series of Egyptian sun-gods: the cosmic Horus, Atum, Re, and Amun-Re. And Aten continues in this tradition. Emphasis upon him as creator (using the Egyptian verb, *jrj*, "to create," a word appearing in almost every stanza) is pervasive in the poem. There are several references to "what you have created" (stanza i) or "the one who creates" the creatures (stanza ii) or "your creations" (stanza vii). Also in stanza vii, reference is made to "fashioning" (*qm*): "You have fashioned the world according to your desire." In stanza xi, God has fashioned human sight so that humankind may see and thus praise God's works. Or, in the same stanza, "You create the numberless things (forms) from yourself, being alone"; and specifically named are cities and towns, fields, the roadway, and the River (i.e., the Nile). Striking in this poem, and unlike traditional hymns, is the absence of any reference to the creation of other gods among the numberless acts of creation. Finally, in an uncertain and slightly broken context (stanza xi), God seems to be "completed" through having those whose sight he fashioned praise ("applaud") what he has created. That is, the praise of the creatures for the creator is necessary to the perfection of the universe.

4. *God is Alpha and Omega, the span of Time.* The cycle of Aten's rising (*wbn*) and setting, "going to rest" (*hṭp*), the alternation of day and night, light and darkness, has usually been taken as only that; and this progression forms the central theme of the first three stanzas of the poem, where after a general celebration of the Aten's divine Light (stanza i), there is the onset of night where the creator "goes to rest" in his "horizon" (*ḥt*), a word that also often designates the royal tomb and thus death (stanza ii). Then, in stanza iii, the dawning of the new day occurs. In both

stanzas the rhythms of night and day are concretely described. But, the creatures also live because of Aten's sunlight: they "live and grow sturdy through you" (stanza x). This is repeated in the final stanza: "You are arisen, so they live." But here a second phrase is added, like the final lines of stanza ii regarding the "death" of Aten at night: "Should (or: when) you go to rest, they would (will) die." This still might be the alternation of day and night and thus be used metaphorically. However, the next lines make it quite clear that the Aten is the span of Time: "It is you who are the duration of time itself. / One lives by means of you." This then suggests a beginning of time (the creation) and its end as well. The poem does not deal with what occurred before, or what will occur after, Time. But the implication of a finite universe, and perhaps even of a finite god, is striking; for the usual conception was just the opposite for deity and universe alike, which were to endure (as usually translated) "for eternity and forever" (*nḥḥ* and *dt*).

5. *God is universal*. He not only created all creatures, peoples, and lands, he also exists for, and is the god of, them all. This attitude is not unique to Akhenaten's hymn or weltanschauung, but it is not stressed in the earlier stages of Egyptian culture. However, with the onset of the New Kingdom, with its expansionist and imperial tendencies, and with the subsequent more detailed awareness of other peoples and lands, there was a growing "universalist" trend in Egyptian ideas, for instance, in *The Cairo Hymn to Amun-Re*, or represented in this hymn by Aten as universal God, and continuing in the Ramesside period, as represented by the *Leiden Hymns to Amun*. This attribute of God is particularly prominent here in the series comprised of stanzas vii–ix. Akhenaten celebrates the multifariousness of Aten's creation, where everything is not "hidden" but "mysterious to the sight"—that is, *visible* (the very groundwork of the entire poem) but with richly interwoven meanings and unrealized implications. And among these creations are the foreign lands of Khor (Syro-Palestine) and Kush (Nubia). God has made the speech, the natures, and even the skins of the various peoples different so that he can distinguish them one from another (stanza

viii). "You belong to the foreign peoples," he says in stanza x, "to all the kinds of wild beasts, and to those who go upon feet." Stanza ix has the fullest and most direct references to foreign lands and creatures: they live because Aten has created a celestial Nile (a "Hapy" in the sky), which furnishes water for field and town in the form of rain, which comes down in "waves" just like those of the sea.

6. *God is love*. He is the nurturer of the creatures and of all his creation. He cares for them; he watches over them; though far away physically, he is near them; and he "wearies himself" for them (stanza ix). Stanza after stanza is characterized by the presence of a divine familiarity with and tenderness toward all creation. This attitude on the part of God is unusual in the Egyptian tradition (especially earlier), where the great cosmic gods are not only awe-inspiring but majestic, even terrible, too distant and too intent on running the cosmos for human familiarity. In Egyptian literature there is on occasion a charming love in the subhuman creatures, who praise the gods by frisking and gamboling, darting up into the sky, or pirouetting about in their pools and streams; but for human beings the gods were too distant, too transcendent for contact, and an entire system of rituals and priestly activities was developed to approach and influence those cosmic gods, none of whom was regarded as a father figure.

Aten, on the other hand, reaches out to gather in all the lands of the earth for his son, Akhenaten, "whom he loves"; and his rays light up those lands as well as the faces that watch him (stanza i). When he "sets" at evening, all earth is muffled, choked, or suffocated by darkness—a condition much like death (stanza ii). In stanza iii he "drives away" darkness so that his beams may light humankind, "the sun-folk"; and they raise their arms to praise the daily resurrection of their God. It is a world of peace and satisfaction in stanza iv, where the lesser creatures give praise to the "Person" (literally, *k'*) of God; the river traffic is unimpeded, fish leap, and even the Great Green Sea is made beautifully translucent by Aten's rays. God's nurturing care is addressed most specifically in stanzas v, where human procreation occurs, and vi, by the tenderly loving and even comic portrait of the birth of a chick

from the egg. This careful nurturing by Aten—the concept of God as love—is perhaps (after God’s singleness) the most striking of his attributes and the most unlike traditional Egyptian hymns.

7. *God is light.* The concept, obvious with all the sun-gods, begins for Aten with his royal cartouche, where he is called the “light” (*šw*) that is in the sun-disk. Indeed, it is clear that “Aten” is the name for the visible incarnation or manifestation of the unseen godhead, which can take many forms (stanza xi). And light is pervasive in the *Hymn*, from its first word (*h̥j*), where the “living Aten” is seen to “appear gloriously” in the heavens just as a divine king or a deity is manifest in the epiphany to humankind, on to the close of the poem where Akhenaten asks his father, Aten, to “shine” upon all on earth. The physical attributes of Aten are described by words such as “lovely,” “gleaming,” or “dazzling.”

God is the light of day, which bathes every object in creation with its caressing and revealing rays (in the wall carvings the Aten’s rays end in small hands reaching out to the royal family); and everything is made visible by means of Aten, who actually “drives away” the darkness of night. So, as mentioned earlier, the contrast between light and dark is central to the poem. Since Aten is the creator god, it is his activity that brings the first light out of the darkness of chaos (*nwn*), the original welter of wet, darkness, and wind out of which the universe was formed (cf. *Leiden Hymn XC*: “Light was his manifestation at the First Time”). And the contrast becomes a contest between the powers of light and darkness in the continuing universe. Further, the very definition of God as light implies the primal significance of *visibility*. God’s creation is open to sight, and “sight” (along with the “eye”)—that faculty (and organ) which comprehends the visibility of God’s creation—is a fundamental emphasis of the poem. This concept is put forward in stark contrast to the “darkness” or “hiddenness”—the inability of the human to comprehend the divine—of the traditional gods of Egypt, who dwelt in dark, dimly lighted, and mysterious temples, unlike the open-to-the-heavens architecture of the Aten. Indeed, the divine light of Aten is actually the guide or stan-

dard by which human beings measure themselves (stanza xi). And because creation can be seen in all its glory, the creatures can worship the creator of this beautiful, visible world, as humankind does in stanza iii or as the creatures do in stanza iv. Life here is a celebration of openness, love, and beauty, not the rituals and sacerdotalism of traditional Egyptian religion. And finally, at the end of the poem there seems to be the suggestion that the divine Light does not last forever, that the universe ultimately slides back to darkness and chaos. Thus the light and all it symbolizes is especially precious. Akhenaten, as the divine son of the Father, comes out of the heart (literally, “body”) of that light (stanza xii).

8. *God is beauty.* Not much needs to be added concerning this attribute, which is an extension of the implications of God as light, openness, and visibility. Both he himself and what he has created are specifically termed *nfr* or “beautiful” (stanzas i, xii).

9. *God is father.* Aten has a caring, paternal attitude toward his creation, hence the sense of the world as a family. And while this attribute applies by implication to all creation, Akhenaten is specifically called Aten’s son, “whom he loves” (stanza i) and who “came forth from his body” (stanza xii). It has been said that Akhenaten worshiped the Aten while the rest of Egypt worshiped Akhenaten. This may be true; but the fact remains that in this poem, the concept of god as father is clear and pervasive. Additionally, the divine son actually intercedes (or pleads) with his father to “lift up” (*tzj*) the creatures for his sake (stanza xii).

10. *God is within.* Aten is obviously the dazzling and fiery presence making the daily circuit of the sky. However, he is also within the human spirit; as Akhenaten says, “you are in my heart” (stanza xii). Again, although there is no evidence in this poem that the idea is applicable to all human beings, God is apprehended through the consciousness of the individual (here, of course, the divine king). The emphasis is not on priests or ritual (though Amarna certainly had those institutions) but on religious insight, the sense of the presence of God dwelling within the self.

Other divine attributes might be mentioned, such as God as order, as abundance or plenitude, as “fate” or the determiner of human destinies, and as sovereign, but the foregoing discussion gives a fair indication of the nature of Aten to the author of this hymn. And in the hymn we see a vision of deity which is striking, and even astounding, in its originality and richness of conception.

STYLE

Descriptive Power

The ideas displayed in *The Hymn to Aten* are only part of its power and significance. It is also a splendidly and compellingly expressed poem in honor of God. Its effectiveness stems, first of all, from the concreteness of its expression and the colorfulness of its imagery. This is its primary strength as a piece of literature. To be sure, there are abstractions or comprehensive general concepts: Aten is “the source (beginning) of life” (stanza i); his creation is “multitudinous” or “various” (stanza vii), a generalization which is then made concrete with examples of that variety; the “plan” of God, or his management of the creation, is “splendidly ordered” (stanza x); or he, “though One,” creates “the multitude of visible forms” (stanza xi). But abstractions or generalizations do not make for poetry; and almost everywhere in the *Hymn*, the larger term is made concrete and specific through images and examples.

After reading the poem, one remembers the sun dazzling the eye from the height of heaven, the lions emerging from their caves at night, the sleepers who purify and dress themselves in order to raise their arms in praise to the newly risen sun, the sun’s rays striking deep in the Great Green Sea, the newly hatched chick strutting forth from its egg, the Nile in the sky raining down on the mountains, all eyes watching the beauty of day and light until the setting of the sun, and so on. These are all images—groups of words used to convey sense impressions. And because they are so specific, expressing concrete objects and actions, they linger in the memory.

The richness of the imagery can be followed especially well in stanza ii, the theme of which is sunset, darkness, and the death of light. From

the first image of the world darkening at sunset to the final one of the death of God and Light, the stanza is replete with images that together draw a scene of melancholy and fearful beauty. And the author of the *Hymn* is able to compose such specific scenes, conveying his insights into the nature of God, in stanza after stanza. It is this specificity which, more than any other quality, makes the *Hymn* so successful as a *poem* (i.e., rather than as a piece of philosophy or theology).

It is interesting that the author does not particularly rely upon figurative language to convey his meaning. Such language (similes, metaphors, personifications, and so on) was certainly available to him from the Egyptian poetic tradition (one thinks of an earlier poem, *The Dispute Between a Man Tired of Life and His Soul*, where the very structure of the man’s anguished third “song” is entirely a series of metaphors). Figurative language is usually considered essential to the charge or intensity of “true” poetry, so it is interesting that this author largely forgoes the device. There is a modest and rather low-level use of figures; but these are the usual and not very striking personifications of the various animals—the cattle, wild beasts, birds, and fish—given human attributes in order to show their love and praise of God. The spreading of the birds’ wings parallels the awakened sleepers’ raising of their arms and goes beyond imagery to personification. But there is not a great deal of this. There is, however, the rich symbolism of light and darkness, which certainly pervades the poem and is developed in several ways as a contest between two principles. The otherwise modest level of figurative intensity helps demonstrate that it is the concreteness of diction and the colorfulness of the imagery—the descriptive ability of the author—which gives the poem its primary power.

Tone

There is one other literary device that is used to major effect in the poem, one almost as important as imagery, and that is tone—the attitude of the author or the speaker of the poem (here, Akhenaten himself) toward the subject matter he is expressing. Tone gives the emotional dimension to what is said; it conveys how much the speaker means what he says, how seriously he is saying it, and what his frame of mind is

The Hymn to Aten and Psalm 104

Parallels have often been drawn between Akhenaten's hymn and Psalm 104, a hymn in praise of the splendor and multifariousness of Yahweh's creation. The Egyptian hymn antedates the psalm by at least half a millennium, and during that length of time a good deal of metamorphosis of the ideas and images of the former piece must have taken place. Nevertheless, the claim for a relationship between the two is valid—in overall tone, in parallelism of certain more general ideas, and in at least one specific passage. Taken together the three convergences make indebtedness of the psalm to the *Hymn* probable.

First, the tone of the two poems is identical. There is a joy and a wonder in the beauty and variety of God's creation that rises into an ecstasy of praise.

In addition, one passage of the psalm, verses 20–26, is so close in phrasing and sequence of ideas as to be a direct borrowing:

You bring on darkness and it is night,
when all the beasts of the forests stir.

The lions roar for prey,
seeking their food from God.

When the sun rises, they come home
and couch in their dens.

Man then goes out to his work,
to his labor until the evening.

How many are the things You have made, O Lord;
You have made them all with wisdom;
the earth is full of Your creations.

There is the sea, vast and wise,
with its creatures beyond number,
living things, small and great.

There go the ships,
and Leviathan that You formed to sport with.

There are additional thoughts here not in the Egyptian, like the reference to Leviathan, or different shad-

ings, like the detailing of the fecundity of the sea (verse 25); but the passage (verses 20–23) very closely parallels the end of stanza ii in the Egyptian hymn, with additional bits corresponding to the end of stanza iv (verses 25–26) and the beginning of stanza vii (verse 24).

Finally, other central ideas, despite variant phrasing, point to a connection. The end of verse 1 and beginning of verse 2 of the psalm closely reflect the opening of the *Hymn*, with its emphasis upon the glory and brilliance of the Aten. Similarly, in verses 10–13, the reference to God providing water for the creatures of the hill regions is paralleled in the celestial Hapy (Nile) of stanzas ix–x of the *Hymn*. There are also more general parallels in the mention of the trees and the birds in both poems. Finally, verses 28–30 of the psalm reflect closely the idea of the Aten as one who gives and takes away the lives of the creatures, as seen in the first half of stanza xii: when Aten rises, the creatures live; when he sinks to rest, they die.

The numerous parallels between the two poems demonstrate that the author of Psalm 104 somehow “knew of” the existence of the earlier Egyptian poem. There is, of course, no evidence for connection except the texts themselves, and surely the Israelite poet would not have known Akhenaten's original version. But amid the permutations of several centuries' transmission, enough of the original version survived that we can still detect bits of the original in the later psalm. A hymn of the Amarna type, but a little earlier than Akhenaten's, was inscribed in Theban tombs of the seventh and sixth centuries, confirming that this tradition remained accessible in later times.

when saying it. Tone is extremely important in this hymn, for the poem conveys a happiness bordering upon ecstasy. Akhenaten has often been called a visionary; and the mood of this hymn shows whence that appellation derives. The king's apprehension of God is of a deity who cares intimately for what he has created, who not only first formed it out of the impalpable (chaos, *nwn*), but who continues to create and nurture, who oversees procreation to perpetuate the good, who sees that the shipping goes up and down the Nile, and that the paths are safe and flooded with light, who watches over the wild things of the deserts and the variously hued

peoples of foreign lands, who orders the seasons to produce abundance of food or the combination of water and sunshine to make the fields fertile, who created sight so that human beings might observe him and thus praise his works, thus “completing” himself. The tone of the relationship between Aten and his creatures is familial—they are a family of creatures. And this nearness brings comfort to the world and a feeling of joy to the *Hymn*. Akhenaten says, “How splendidly you appear in the circuit of heaven!” (stanza i) or “How various is your creation!” (stanza vii) or “How wonderfully ordered are your counsels!” (stanza x). Except for stanza ii,

which deals with the absence of light, a tone of happiness and joy pervades the stanzas. In an analogue many centuries later, showing that the ideas and attitudes in this hymn represent an enduring conception of deity and the creation, Ralph Waldo Emerson insisted that life is a "celebration" (compare stanza iii of the *Hymn*), that it is an "ecstasy, rather than available rules," "rather a subject of wonder than of didactics." It is a relationship between the deity and his creature resembling that of parent and child (for Akhenaten), with the deity present in the creature's consciousness ("you are in my heart" from stanza xii), with no intermediary necessary for the apprehension of God, and with a joyous affirmation of life in this variegated world rather than a preparation for the tomb and eternity. It is the intimacy of the speaker's relation to the creator and the joy in the present, visible world—the affirmation of light rather than darkness—that sets this hymn apart from others in the Egyptian religious tradition. It does not have its like in Egypt, except for less powerful expressions in other, shorter Amarna hymns or in one or two of the *Leiden Hymns to Amun* from the Ramesside period a century later.

Moses and Egyptian Monotheism

Because of the relatively close conjunction of Akhenaten and Moses in both time and place, and because they both express the idea of monotheism, it has been tempting to deduce some connection between the two figures and their central belief. Akhenaten was, of course, a historical personage living during the middle third of the fourteenth century BCE. Moses, on the other hand, is a figure of tradition and legend whose historicity is not proven; nor is the date or nature of the Exodus, which, according to Biblical tradition, he led. Most scholars who regard Moses as a historical figure place him at the Egyptian court during the thirteenth century and the Exodus sometime during the reign of either Ramesses (Ramses) II (circa 1279–1213) or his son, Merneptah (circa 1213–1204). There is no evidence from Egypt that this is so. Connections between the two figures are an intriguing possibility, but on present evidence they must remain no more than that.

CONCLUSION

Because of its strikingly new conception of the traditional Egyptian creator god and sun-god as the god of love, light, and joy (as well as many other things), and because of its enormous poetic power, achieved through defining imagery, specific description, and a tone of unshakable belief and almost ecstatic joy, *The Hymn to Aten* becomes one of the greatest expressions of praise for deity to survive from the ancient world. Certainly it is one of the most compelling and enduring statements of belief in all of religious history.

BIBLIOGRAPHY

General

For an analysis of the subject, see CYRIL ALDRED, *Akhenaten, King of Egypt* (1988), especially pp. 241–243. JAN ASSMANN, *Ägypten: Theologie und Frömmigkeit einer frühen Hochkultur* (1984), pp. 232–257, provides an analysis of the Aten and the theology of the Amarna period. Two major selections and discussions of Egyptian hymns and prayers are JAN ASSMANN, *Ägyptische Hymnen und Gebete* (1975), and ANDRÉ BARUCQ and FRANÇOIS DAUMAS, *Hymnes et prières de l'Égypte ancienne* (1980). See also JAMES H. BREASTED, *The Dawn of Conscience* (1934); ERIK HORNUNG, *Conceptions of God in Ancient Egypt*, translated by JOHN BAINES (1982), on Egyptian religion; DONALD B. REDFORD, *Akhenaten, the Heretic King* (1984), especially pp. 177–178, for a political assessment of Akhenaten; and MAJ SANDMAN, *Texts from the Time of Akhenaten*, *Bibliotheca Aegyptiaca* 8 (1938), especially pp. 93–96 with a handy edition of the hieroglyphic text of the hymn itself.

Sources

The original copy of the *Hymn*, before much of the damage to the wall, is reproduced in URBAIN BOURIANT, G. LEGRAIN, and G. JÉQUIER, *Monuments pour servir à l'étude du culte d'Atonou en Égypte*, vol. 1, *Mémoires publiés par les membres de l'Institut français d'archéologie orientale du Caire* 8 (1903), pl. xvi and pp. 30–32 and N. DE G. DAVIES, *The Rock Tombs of El Amarna*, part 6, *Archeological Survey of Egypt*, 18th Memoir (1908), especially pp. 29–31 and pls. xxvii, xli, is the scholarly source for the text. JAN ASSMANN, "Zwei Sonnenhymnen der späten XVIII. Dynastie in thebanischen Gräbern der Saitenzeit," *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung*

The Hymn to Aten

Kairo 27 (1971), includes Saite versions of a hymn of the Amarna type.

Translations

See JOHN L. FOSTER, *Echoes of Egyptian Voices: An Anthology of Egyptian Poetry* (1992), MIRIAM LICHT-

HEIM, *Ancient Egyptian Literature*, vol. 2 (1976), pp. 96–100; and WILLIAM KELLY SIMPSON, ed., *The Literature of Ancient Egypt* (1973), pp. 289–295. The translation of Psalm 104 is from Jewish Publication Society, *Tanakh: A New Translation of the Holy Scriptures According to the Traditional Hebrew Text* (1985).

SEE ALSO **Akhenaten: A Portrait in Art of an Ancient Egyptian Capital** (Part 5, Vol. II) and **Ancient Egyptian Literature: An Overview** (Part 9, Vol. IV).

Death and the Afterlife in Ancient Egyptian Thought

LEONARD H. LESKO

THE EGYPTIANS' ATTITUDE toward death and burial preparations through several millennia was such and the quantity of burial equipment so great that at times these subjects might seem to have preoccupied them totally. Yet although death and the world of the dead are predominant features in much of the surviving record, the documentation points not to excessive morbidity, but rather to a preoccupation with life and a desire to continue living after death.

Prior to the earliest written records, the Egyptians' burial customs clearly indicate that they believed in life after death and hoped that it would resemble the life they knew—and perhaps improve upon it. Although we can speculate in various ways on the symbolism and magic involved in the burial process, the inclusion of food provisions in a proper burial implies at the very least that the Egyptians believed in a bodily existence and a need for sustenance after death.

Egyptian beliefs and practices regarding death developed over thousands of years. Initially, natural desiccation in the desert sand may have been considered adequate for the preservation of the body and may even have encouraged belief in a bodily afterlife, but the much more elaborate process of mummification was no doubt fostered as a better preparation for

those who could afford it. Likewise, simple sandy-pit graves developed into mansion-like tombs to provide storage space for all the provisions assembled by and for the deceased. From the inscribed and decorated walls of such tombs from all historical periods, we know much about the Egyptians' views of death and the afterlife, but other sources, including both literary and nonliterary texts, occasionally either fill out the picture or provide counterpoint. The tendency of scholars is to generalize from the commonplace, but the exceptional is equally noteworthy. Furthermore, we risk assuming erroneously that many beliefs and practices were concurrent or countrywide. The reader should be aware that the record is far from complete and favors the later periods, the southern part of the country, and the upper classes of society.

COMPONENTS OF THE SOUL

For the Egyptians a complete person was composed of various physical and spiritual parts. The body itself was considered an essential element that was animated by a soul, or *ba*. The *ba* was represented as a bird that flew off or departed

at a person's death or burial. It would generally stay near the body but could also leave the tomb to assume other forms. These transformations were apparently not permanent and were not transmutations. That the *ba* was considered an aspect of the living person is evident from a literary document, the *Dispute Between a Man and His Ba*, of the Middle Kingdom (circa 2000 BCE). In this text, the *ba*, if not a conscience, is at least an intellectual component that presents the individual with differing viewpoints that must be considered. In another Middle Kingdom literary work, the *Complaints of Khakheperresonb*, a protagonist addresses his "heart"; that the heart was deemed the seat of love as well as of volition is a remarkable parallel to its position in modern symbolism. However, what the Egyptians called "heart" was generally the equivalent of our "mind," so that the similarity of *ba* to classical and scholastic definitions of the soul might present a more significant parallel.

A second spiritual element of any person was his *akh*, a term that is often left untranslated but could be rendered "spirit." This spirit, like the *ba*, is an element that survives after death. It can be either benevolent or evil. The goal of a religious person was to have an *akh* "equipped" with "spells" that would be useful after death. Living individuals beset with problems could appeal to the *akh* of a relative to intercede against other *akhs* believed to be causing their grief or aiding their tormentors. This belief in spiritual combat appears in the letters to the dead that were placed at tombs by grieving, angry, or fearful survivors. They may recount some of the good things done by the survivor for the deceased while he or she was alive. Some of these letters were written on plates or bowls, presumably filled with offerings to the dead and thus serving as a gentle bribe to invoke help against malevolent spirits.

The Egyptian notion of the *ka*, another spiritual component, is more difficult to comprehend. While in essentials the concept may have been stable and consistent throughout Egypt, its attributes may have differed locally or temporally. In the story of *The Shipwrecked Sailor*, the island of the *ka* is a phantom island, an unreal place that is meant to be taken as real. Perhaps this ambiguous condition is the essence of the

word, since a person's image or statue is also that person's *ka*. Magically the *ka* can be a second effective personality and a protecting genius, as some have labeled it. The fashioner god, Khnum, is shown molding both the child and his *ka* in New Kingdom and later depictions of divine birth. Also in the Late Period, all of the so-called attributes of Re—his senses, perception (*sia*), authoritative utterance (*hu*), and others—are personified as *kas*.

The *ka* was important to a person's survival in the afterlife. Should the corpse perish, the survival of the *ka* could still guarantee continued existence. Similar to *ka* statues, which were full portraits of the deceased with the *ka* sign occasionally upon their heads, single reserve heads (carved heads or busts present when the mummy perishes) were another device found in the burial shafts of some early Old Kingdom mastaba tombs. *Ka* servants were priests in charge of administering the endowments connected with a burial, which were ordinarily spent for the offerings to be provided over a long period of time. Such priests received the benefit of numerous unconsumed provisions in a practice termed the "reversion of offerings." What is not certain is whether the priestly title derived from the word *kaw*, meaning "food" or "provisions," or from the *ka* of the person they served.

Another aspect of an individual that deserves mention is the person's shadow or shade (*šuyt*), which has a parallel in the Latin *umbra*. This is both mentioned in the funerary literature (*Book of the Dead*, chap. 92) and depicted in tomb paintings such as Irynefer's tomb of the Rameside period.

THE BODY: MUMMIFICATION

Mummification was practiced to preserve the majority of parts of the body, and in its simplest form was accomplished by removing the viscera that generally bring on decay and decomposition. This basic process could be greatly improved upon, and there were variations in the procedure throughout Egypt's history. There were also different grades of work that required certain amounts of time, chemical preservatives, and attention to detail. In the most thorough

Letters to the Dead

Surviving letters addressed to the dead, though few in number, have come from almost every period of Egyptian history from the Sixth to the Twenty-first dynasties. They vary in length, coherence, degree of agitation, and demands but demonstrate a fairly consistent belief in the ability of people to communicate with deceased family members and to recruit their assistance with everyday problems. Those letters written on bowls of offerings and containing poignant personal reminders of past kindnesses are powerful statements, especially for having been put in writing, but they obviously presuppose a much more common practice that would generally have involved oral or internalized pleas.

Two examples from Edward F. Wente's translations in his *Letters from Ancient Egypt* (1990) include a bowl and stela from the First Intermediate period:

It is a sister who addresses her brother, the sole companion Neferssekhi: Much attention—it is profitable to give attention to one who cares for you—on account of this which is being done against my daughter very wrongfully, although there is nothing that I did against him. I did not consume his possessions, nor did he have to give a thing to my daughter. It is for the sake of interceding on behalf of a survivor that invocation offerings are made to a spirit. So punish the one who is doing what is distressing to me since I will triumph over whatever dead man or woman is doing this against my daughter. (p. 215)

A communication by Merirtyfy to Nebetotef: How are you? Is the West taking care of you according to your desire? Now since I am your beloved upon earth, fight on my behalf and intercede on behalf of my name. I did not garble a spell in your presence when I perpetuated your name upon earth. Remove the infirmity of my body! Please become a spirit for me before my eyes so that I may see you in a dream fighting on my behalf. I will then deposit offerings for you as soon as the sun has risen and outfit your offering slab for you. (p. 215)

Two later and much longer examples from a Nineteenth Dynasty papyrus and Twenty-first Dynasty ostrakon are abbreviated here:

To the able spirit Ankhiry: What have I done against you wrongfully for you to get into this evil disposition in

which you are? . . . As for what you have done, it is the reason for my laying a plaint against you, although what have I done against you? I shall contend at law with you in the presence with the words of my mouth, that is, in the presence of the ennead of the West. . . . I took you for a wife when I was a youth so that I was with you while I was functioning in every office and you were with me. I did not divorce you, nor did I cause you to be vexed. . . . When I was instructing officers for Pharaoh's infantry and his chariotry, I had them come and prostrate themselves before you, bringing every sort of fine thing to set before you. I concealed nothing at all from you during your lifetime. I did not let you suffer discomfort in anything I did with you after the manner of a lord, nor did you find me cheating on you after the manner of a field hand, entering a strange house. . . . I and my people wept sorely for you before your body . . . I donated clothing of fine linen to wrap you up in and had many clothes made. I overlooked nothing good so as not to have it done for you. Now look, I've spent these last three years without entering another house. . . . As for those sisters in the household, I have not entered into a one of them (sexually). (pp. 216–217)

Statement by the necropolis scribe Butehamon to the chantress of Amon Ikhtay: Pre has departed and his ennead following him, the kings as well, and all humanity in one body following their fellow beings. There is no one who shall stay alive, for we shall all follow you. If I can be heard where you are, tell the lords of eternity to let your brother (i.e., husband) come to you that you may be his support in their midst, be they great or small. It is you who should speak well within the necropolis since I committed no abomination against you while you were on earth. (p. 218)

Such letters indicate that the dead were not considered so different from the living. The continuity of life and the afterlife was assumed and reunification with family members was expected. The dead were approachable and reproachable; they could be cajoled, and they could meddle in the affairs of the living. People expected justice and were not afraid to insist on a quid pro quo. They could be threatening and nasty but also tender and, evidently, concerned about being misunderstood and having their good deeds rewarded.

mummification, the entrails were removed most carefully and thoroughly, the natron (a natural dehydrating agent) was applied more generously or frequently, and bodily fluids were more completely drained. The innards, which were

removed from the thoracic cavity through an incision in the left side, were divided and stored separately in four "canopic jars." These jars were associated with the four sons of Horus. Their original plain lids had become human-

headed in form by the Middle Kingdom, and by the New Kingdom they often bore the heads of each son—Imesty (human), Hapy (ape), Duamutef (jackal), and Qebekhsenuf (hawk). These divinities, represented on the canopic jars, protected the liver, lungs, stomach, and intestines, respectively.

The heart was also removed, but being perceived as the seat of intelligence, it was wrapped in linen and replaced or sewn back into the chest cavity, and from the New Kingdom on, a heart scarab of green stone was placed on the mummy over the heart. Chapter 30 of the *Book of the Dead* was inscribed on the base of this scarab, asking the heart to testify on behalf of the deceased during his last judgment. To remove the brain, long rods with hooked ends were inserted through the nostrils to cut up and snag what they could of gray matter, but this step was apparently not always considered a priority, nor was brain matter treated and saved.

The time for the whole mummification process ranged between 30 and 200 days and was described as taking 70 days in the often unreliable account by the Greek historian Herodotus. The mummification process for one Old Kingdom queen took 272 days in one extreme case, and according to a late New Kingdom text one king's body remained unburied for at least two years but probably not because of a prolonged mummification. Embalming tables survive, as well as bodies with embalmers' incisions, stuffing, and stitches. Embalmers sometimes provided mummies with artificial limbs, and padding to plump out the figure was also utilized. Because of the high expense of full mummification, among the poor the rule was only to wrap the figure and bury it after a short time.

For a thorough mummification, the hollow shell of a body was meticulously wrapped with hundreds of yards of linen. One Old Kingdom body had each of its limbs and digits individually wrapped. In later periods it was more common for the whole body to be wrapped as a unit, sometimes with a copy of the *Book of the Dead* and also an abbreviated Amduat papyrus (*Book of Amduat* [*jmj-dw't*, "That Which Is in the Netherworld"]) included in the wrapping, presumably because of their importance as guidebooks to the beyond. Papyrus rolls might be placed between the legs or under an arm, or

sheets of papyrus could be inserted between the layers of the wrappings upon the body. Amulets were often placed according to a ritualistic plan in fixed positions within the linen wrappings.

Once mummification was complete, the body was ready for burial, an event involving a number of religious rituals; the most important of these was probably the Opening of the Mouth ceremony. In the full, seventy-six-scene New Kingdom illustration of this rite, the eyes, ears, nostrils, and mouth were touched with a ceremonial adze to symbolize their opening and the individual's revivification. Since the same rite was also performed on statues and wall decorations with human figures, it could be argued that such representations were considered the equivalent of the mummies, with personalities that could be revivified, and that this magico-religious rite may have been a part of everyday life. From the many other examples of religious devotion in iconography, amulets, nomenclature, temple service, oaths, and salutations, it is clear that many such aspects of religion permeated Egyptian daily life.

THE CONTINUATION OF LIFE

The Egyptians loved life and considered 110 years to be an ideal span. For them nonexistence was a fate worse than death. People strove to continue their bodily existence, a fact that explains the elaborate preparations for burial, the provisions accumulated, and the precautions taken to protect the substantial treasures that were buried with the elite. This emphasis on preserving the body is seen also in the resolve to recover the bodies of those slain while on expeditions abroad or by the fear of drowning and being devoured by crocodiles. Such a fate was said to await those who committed sacrilege or swore a false oath.

Not everyone was content with his or her lot in life, but suicide was not an approved way to escape harsh realities and to begin a glorified existence in the afterlife. In the New Kingdom, suicide was an option allowed to the highest-ranking individuals who had been found guilty of capital crimes. Capital punishment was used sparingly—only for serious crimes—and appar-

ently only upon the judgment of pharaoh. (See “Legal and Social Institutions of Pharaonic Egypt” in Part 4, Vol. I.)

Many Egyptians must have been pleased to have their representation surviving in statues, on stelae, and even in graffiti to keep their name and fame alive. The late New Kingdom instruction in Papyrus Chester Beatty IV recognized the futility of previous efforts at elaborate burials, since the tombs of famous men had been plundered. It was by writings that people and their memories were kept alive.

BURIAL TEXTS

In addition to careful physical provisions for burial, the Egyptians prepared written texts, because from very early in their history they believed in the efficacy of both the spoken and the written word. In graffiti left in many out-of-the-way places, passersby were entreated to say “a thousand bread, a thousand beer, a thousand oxen, a thousand fowl for so-and-so,” and the writer hoped thereby to become a beneficiary many times over. Similarly a table of offerings inscribed or painted on a tomb wall, stela, or coffin could be relied upon to provide for most sustenance in the hereafter, and menu-like lists of provisions and other commodities were used either alone or with representations, again to substitute for the actual commodities. These magical lists became an important part of the textual material prepared for any prominent person’s burial. These texts, inscribed on the walls of the burial chambers of pyramids of royalty and on the insides of coffins of noblemen, are full of obscure allusions, but they provide a vast body of evidence for religious beliefs and practices, as well as for some of their philosophical underpinnings.

The mythological content of the funerary texts was extensive, but it was not the purpose of these texts to narrate myths; these were for the most part passed on from generation to generation through oral tradition. References to the deities or their actions were enough to show familiarity with the myths and with the purposes for which they were being evoked by the priests or the deceased. The primary purpose of the funerary

texts was rather to provide the deceased with a compendium of knowledge required for the afterlife. The descriptions of the surroundings envisioned in the afterlife include mansions, gardens, and boats where the deceased would abide in either celestial or terrestrial settings. To obtain a goal—either to reach a place with one of the gods or to guide a god such as the sun-god on a cyclical journey—the deceased had to know the name of every being (divine or demonic), every place (hill, waterway, or obstacle), and every thing (including each of hundreds of parts of the boats on which they would traverse the sky).

Ascension texts to enable the deceased to reach their realm of the afterlife were commonplace (especially in the Old Kingdom royal Pyramid Texts), but the imaginative descriptions of methods of ascending (for example, soaring on birds’ wings, rising with incense, or climbing on ladders formed by the outstretched arms of gods) were apparently presented as various options or possibilities, not as dogma. According to the Pyramid Texts, the principal objective of the king in the afterlife was to join the sun-god Re in his heavenly voyage. (See “Builders of the Pyramids” in Part 5, Vol. II.) According to the Middle Kingdom Coffin Texts, the afterlife that could be attained by nonroyal persons had several variations or combinations of elements that might have allowed for a varied existence in the hereafter. Some individuals might want to become stars in the sky with the moon god, Thoth; others might want to remain in the lush Fields of Offerings of Osiris, the principal god of the dead; and still others might want to sail on the brilliant sun-bark with Re in its unending cyclical voyage. Proponents of particular cults may have had their preferences, but from the way these various scenarios are presented in the texts, they must have been seen as alternative possibilities or choices.

One version of the *Book of Two Ways* from the Coffin Texts clearly ranks these celestial outcomes so that a solar destiny is the highest and can only be reached by those who know all the requisite spells. This version suggests a democratization over time with regard to the hereafter, since goals that had once been the king’s alone were now available to all who could afford to personalize the texts for their coffins. The major-

ity of sources, however, include contradictory goals; that such burial texts could be internally inconsistent seems to reflect a liberal as opposed to a restrictive interpretation of religious ideology. One goal might have been judged by a priest-scribe as better than another, but all were seen as good, and the general tendency was to allow for variation rather than to concentrate exclusively on one strand of tradition.

JUDGMENT AFTER DEATH

Among the good qualities stereotypically recorded in traditional tomb autobiographies are that the person was beloved by his parents and siblings, and gave food to the hungry, water to the thirsty, clothing to the naked, and a boat to the boatless. Instructions from a father to his son, found in the father's tomb and also copied on papyri, frequently encouraged emulating the father's good deeds as well as his correct behavior in order to achieve a success equal to his own. If a person's good deeds and noble accomplishments are a prerequisite for a blessed eternity, the person's evil deeds will certainly be obstacles, despite any attempts to conceal them. This was stated explicitly in the First Intermediate Period or Middle Kingdom *Instruction of King Merykare*, and it appears in the later judgment scene illustrated and described in chapter 125 of the *Book of the Dead*. The famous vignette in this chapter, which depicts judgment overseen by the god Thoth, focuses on balancing the deceased's heart against the feather of truth (*ma'at*). A code of ethics underlies this symbolic act, but the surviving information about it is neither complete nor totally logical.

The so-called Negative Confession in chapter 125 of the *Book of the Dead* is one source of information on the Egyptian moral code, in that it is a long, detailed list of infractions that one must avoid in order to come before the god Osiris. The list of sins seems from a modern viewpoint to put inordinate stress on cheating and stealing and surprisingly little on assault or personal injury. It condemns homosexuality but not adultery. It emphasizes ritual infractions rather than mental attitudes or evil intent. Yet the weighing of the heart could be cited to argue

that intentions were considered at least as important as actions, something that is not clear from the negative confession, which was actually a protestation of guiltlessness of concrete deeds. The earlier *Instruction of King Merykare* also distinguishes between hypocrisy and good intention, mentioning both the tallying of one's evil deeds at the last judgment and the judgment of one's heart by an omniscient god, Re.

GUIDEBOOKS TO THE BEYOND

The Egyptians had diverse conceptions of the afterlife. Some priest-scribes undoubtedly recorded the many prevailing views for their temple libraries, organized them, and compiled them into the guidebook to the beyond that they considered most useful, in the process making the ideas that most appealed to them stand out as the highest goals. By the time of the Coffin Texts, the hereafter had been democratized, and any goal, including the solar voyage, was considered attainable by all. There appeared at the same time, and on many of the same coffins, several series of spells describing the Field of Offerings, originally described as a place in the western horizon of the sky where the deceased works in verdant well-irrigated fields and orchards to farm produce (offerings) for the god Osiris. Later modifications of these texts turned them into descriptions of an Elysian Fields, or paradise, where the deceased reaps the benefits of his labor for himself and enjoys all the most pleasant aspects of life there to the highest degree.

The description of sailing on the cyclical day-and-night journey with the sun-god on board his solar bark is rather straightforward in the earliest guidebooks. It is guaranteed to be attainable if the basic spells and knowledge are either committed to memory or available close at hand. The later guidebooks on this subject are more complex and varied, probably representing alternative avenues by which to achieve the desired status. The *Book of Amduat*, the *Book of Gates*, and the *Book of Caverns*, which appear on the walls of New Kingdom royal tombs, describe the heavenly journey somewhat differently and do not have the same names as are

known from the Coffin Texts and the *Book of the Dead*. These texts do not commonly appear together in the same royal tombs. Rather they reflect dynastic or personal changes during the New Kingdom and seem to have become more complex and intimidating by the late Ramesside period.

By then, and continuing into the Third Intermediate Period, shorter versions of the *Book of Amduat* on papyrus were included with one or the other versions of the *Book of the Dead* in burials of lesser personages. All of the above books generally described and named demon gatekeepers, often three per hour of the night, whose names had to be known and whose appearance had to be recognized so that they could be passed when encountered by the deceased.

The mythology of the sun's voyage, which can be worked out in large part from earlier texts, is depicted very graphically in the guidebooks found in the Ramesside royal tombs. The sun-bark is passing from east to west along the body of Nut, the sky goddess, until it reaches the west and is swallowed by her to pass through her body to be born again in the east. Nut also personifies both the burial chamber and the coffin, so that these can be seen as the womb ready to give rebirth to the deceased. This notion, found as far back as the Pyramid Texts, could possibly go back even further to the earliest burials, in which the deceased is found in what is often called the fetal position. Such a suggestion is speculative, but the consistency of such burials through these periods, with bodies on their left sides, heads to south and facing west, probably had some religious or ritual significance associated with Osiris, Nut, or both.

PUNISHMENT OF THE DAMNED

In the vignette to chapter 125 of the *Book of the Dead*, a deceased individual whose heart fails the weighing test faces Amamet, "the Devourer," a fantastic animal that awaits the judgment of Thoth. This monster, part hippopotamus, part lion, part crocodile, threatens an individual's survival in the hereafter. That person would not be chewed up or tormented for all eternity; rather, he would just cease to exist.

The *Book of Caverns* depicted the threat differently, with bodies apparently drowned in the river. Because the Egyptians depended on the annual inundation (personified as the god Hapy) and ordinarily did not fear flood since it was necessary for their survival, it is probable that they were terrified by hippopotamuses and crocodiles. Another great fear was that of snakes, and the threatening serpents of later editions of the guidebooks to the beyond are numerous and awesome, with their multiple heads and long legs and wings. The principal threat found in the early guidebooks was that the bark of the sun-god Re might be devoured by the serpent, Apopis, an event that served as an etiological explanation of solar eclipses. Apparently three other physical obstacles were threatening in the afterlife. One, called the "slaughterblock," is not further described; another was the "walls of flint," which might refer to flint knives; and the third was fire that, as a "river of flame," could not be crossed. However, with its full complement of crew known as the "entourage of flame," fire afforded protection for the sun-bark.

Lesser threats also existed in the afterlife; some, like scorpion stings, were among those that also concerned the Egyptians in this life, with the remedy being the same—magical spells. Others would conceivably be relatively easy to avoid in this life but posed a serious problem for the deceased. Many spells to prevent eating excrement were provided, presumably because this danger loomed as a possibility for anyone buried in a sandy grave or hanging upside down in the underworld, a possibility in some of the Egyptians' cosmologies.

EARLY NONROYAL TOMBS

Burials generally took place away from the fertile plain above the flood level in the arid low desert or in foothills of the valley, near but not in the inhabited area. The earliest pattern, an oval pit, was soon augmented by the use of rudimentary reed walls, which later were reinforced by wood and mud brick. Stone was first used in royal burials as paving in the Early Dynastic period. Its use developed rapidly in the Third Dynasty, and soon the burials of prominent per-

sons were marked by rectangular superstructures of stone called mastabas (a modern term in Arabic for “bench”). These mastabas were large and covered the entrance to a deep shaft that contained the actual burial. The superstructure’s internal walls formed compartments that were filled with rubble, so that the mastaba was a solid mass to mark the burial as well as to protect it.

These early tombs were provided with niches for the owners’ offering stelae, the niches serving as focuses for visiting relatives, friends, and *ka* servants. Over time, the niche became a chapel, which in turn became internalized and compartmentalized, turning the mastaba into a multiroom building. Most Old Kingdom mastabas in the cemeteries at Giza and at Saqqara, near the ancient capital of Memphis (Mit Rahina), were constructed of local limestone and often laid out along avenues in regular grid patterns. Some tombs of nobles at Giza and most provincial tombs were hewn into the sides of cliffs and arranged along a single path often overlooking the Nile Valley. The largest late Old Kingdom Memphite tombs had more than thirty rooms, each decorated with engraved and painted scenes. The rock-cut tombs mostly had one large central room with painted decoration.

PYRAMIDS AND TEMPLES

As can be seen from the earliest example, designed by the architect Imhotep for King Djoser of the Third Dynasty, royal pyramids evolved directly from a mastaba that was enlarged and topped with successively smaller tiers. Two separate shafts led to mazes of underground rooms. The tall superstructure and irregularly located shaft entrances would have helped to impede robbers, but the pyramid shape could have had religious as well as practical motivation. The religious significance would be linked to the solar cult, representing the rays of the sun or the benben stone on which the phoenix (a symbol of Re) alighted. The chapel of this first stepped pyramid was located on its north side, but later mortuary temples were on the east, as were the entrance to the walled complex, the causeway, and the valley temple where the funeral cortege disembarked.

The location of the earliest mortuary temple on the north side of the pyramid may be associated with the numerous references in the Pyramid Texts (inscribed in late Fifth and Sixth Dynasty pyramids) to joining the imperishable stars—those circumpolar stars in the northern sky that, for people in the northern hemisphere, appear never to set. It has also been suggested that the phenomenon of heads facing north instead of the usual south at a few very early burial sites could show adherence to an astral cult. By the Middle Kingdom, such a cult was clearly associated with the cult of the moon god, Thoth, whom the devout follower would want to join by becoming a star.

The subsidiary tombs or pyramids within pyramid enclosures present unresolved problems. These were probably not queens’ burials, nor were they intended for a canopic chest with the king’s embalmed internal organs. They could have been intended for the burial of a *ka* statue (to guarantee the king’s existence in the afterlife), or they could represent cenotaphs for the king as Ruler of the Two Lands of Upper and Lower Egypt. The latter explanation would assume the subsidiary structures to be a variation of a tradition of two separate tombs at Abydos (Araba al-Madfuna) and Saqqara for each of the kings of the first two dynasties.

Less solidly constructed Middle Kingdom pyramids, with their stone casings laid over mudbrick interiors, had widely varying entrances to protect the burials; by this time their architects knew that the Old Kingdom pyramids had been entered and plundered. Despite the great size of the Old Kingdom structures, their design was too uniform and simple to provide adequate protection.

The New Kingdom royal tombs were isolated in the guarded Valleys of the Kings and Queens in western Thebes. The long and often deep rock-cut tombs were beautifully decorated with religious guidebooks and lavishly equipped, if we can judge from the more than five thousand treasures in Tutankhamun’s comparatively small tomb. They were separate from the temples in which the last rites would have been performed and where provisions would have been stored and proffered when required for the mortuary cult. These mortuary temples for the cults of deceased kings were symbols of power,

Tomb Robbery

Over the years, almost every tomb was entered and robbed of its valuable contents—usually not long after their deposition—with little regard for the deceased's future stake in an intact burial. The tomb-robbery papyri of the Twentieth Dynasty show how thorough the plunder of even the New Kingdom necropolis had been by that time.

Not only were tombs robbed, but they were commonly reused for later burials. Even the coffins from which mummies were taken and discarded were reused, apparently by people with the same beliefs who wanted to benefit from the coffins' protection; they might personalize the coffins by replacing the names of the original owners with their own. The logic of this is difficult for us to understand, since the reusers seem to have shown little regard for the original owners' desires but apparently hoped to succeed where their predecessors had failed.

If tombs were not taken over completely, they were very often invaded partially by subsidiary burials that shared space in burial crypts or were cut into the walls of forecourts. An interesting curse written on a small stone block was originally placed at the entrance to a tomb to tell potential interlopers to find a place of their own and not disturb even a pebble from the magically protected site. Presumably, despite hopes that such a device would work, it must have been easily overlooked or discarded by inveterate trespassers.

Obviously tombs were robbed in antiquity despite the presence of images of gods and sacred amulets. Disbelievers and agnostics may have been in the minority, though they did certainly exist. People are known to have sworn false oaths, stolen temple property, and assassinated pharaohs; one was even accused of being drunk and disorderly on a royal sarcophagus containing the body of a pharaoh.

covered with commemorative reliefs, scenes of pious activities, and impressive offering lists. Yet it was never very long before their endowments were expended or redirected, and most were no doubt quarried by successors within a few generations, even when there was no apparent personal enmity.

TOMBS OF THE NOBLES

Most Middle Kingdom provincial nomarchs must have relied on guards or the relative isolation of their tombs for protection, but at least one priest, Senwosretankh, tried to protect his own burial at Lisht with a sand trap designed to stop intruders. The New Kingdom Theban necropolises were reasonably safe from robbers originally, because they were generally very busy places with a police force, local inhabitants, communities of workmen, temple staffs, and administrators.

Every nonroyal tomb contained some biographical information to help preserve the owner's name and fame. In most cases biographies of the elite were contained in stelae near the entrance to the tomb chapel or in an open first court. Many tomb owners also placed biographi-

cal texts, along with scenes of daily life, in the enclosed portion, whether in the large central columned hall of Middle Kingdom rock-cut tombs or in the more common inverted cruciform-shaped tomb of the New Kingdom. In the latter such personal information could be placed either in the wide entrance hall or in the long inner corridor. Scenes might depict a person's estate and its operation, show the type of administrative work the deceased had performed, portray religious rituals in which he was involved, or commemorate the individual's participation in special events such as royal jubilees.

A sequence of particular interest, covering one whole wall of the tomb chapel, was the person's funeral itself, presumably as it was intended to be carried out, since the decoration was often undertaken well in advance of the owner's death. The sequence of depictions typically showed the funeral cortege, with the body in a coffin drawn on a sledge to the tomb. The processions included women mourners wailing and throwing dust on their hair and porters bearing furniture, offerings, and garlands to the tomb. Also, there was a river procession with two boats, one sailed, the other rowed, for the round-trip pilgrimage to Abydos, the shrine of Osiris. In this standard sequence, a priest was shown performing one or more parts of the

Opening of the Mouth ritual on the mummified body, which was placed upright beside the deceased's stela before the tomb chapel; meanwhile his wife mourned at his feet. Following the depiction of this last link to life was a scene of Osiris in a shrine pointing to the expected life beyond.

The jackal god Anubis, who was associated with cemeteries from very early on, figured prominently both in the funerary literature and tomb scenes of all periods. In the Old and Middle Kingdoms, he was mentioned very commonly in offering stelae, and in the New Kingdom he or a priest acting his part featured very frequently in tomb scenes, ministering to the mummy lying on a bier. He was the god in charge of the wrapping of mummies and was optimistically relied upon to guard the deceased and the necropolis.

Khentyimentiu, "Foremost of the Westerners (the dead)," another jackal deity, early associated with the great necropolis of Abydos, was later fused with Osiris. Osiris—also known as Wenenefer, "He who exists beautifully," or as *Wered-ib-neb-geru*, "The weary-hearted one, lord of silence"—was by the Fifth Dynasty the god with whom the deceased king was identified. In the Middle Kingdom, however, every deceased person judged *maa-kheru*, "true of voice," became identified with him. Other deities could become prominent in connection with the cult of the dead in particular regions. A good example was Hathor, "Lady of the West," depicted as a cow coming forth from the western mountain, the burial place of the Theban necropolis.

COFFINS AND SARCOPHAGI

The members of the Old Kingdom elite were buried in wooden coffins placed inside stone sarcophagi. The old fetal position was therefore abandoned, but some narrow wooden Middle Kingdom coffins still contained bodies laid on their left sides. Decorated coffins had eyes on the front of the coffins, behind which were the deceased's eyes. The custom in this and later periods of placing the mummy in two or three

inscribed wooden coffins inside one another may have developed from an attempt to provide increased security, but this would probably have been through the greater protection of large numbers of texts, made possible by the additional coffin wall space, rather than through any physical advantage the multiple coffins offered. Alternatively the general notion that more is better may have led to this custom.

The mummies themselves could often be given lifelike features either by painting them on the linen wrappings or on gesso coverings. In the Middle Kingdom, anthropoid coffins of wood began to be used for the first, or innermost, container, and masks of painted cartonnage, occasionally with Coffin Text spells on the inner surface, were placed over the mummies' heads. In the New Kingdom, elaborately painted anthropoid coffins were much more frequent. Two of the largest ones known (more than ten feet [three meters] long) belonged to queens Ahhotep and Ahmose-Nefertari of the early Eighteenth Dynasty.

Tutankhamun's three anthropoid coffins, the two in gilt wood with stone and glass inlays and, in particular, the innermost of solid gold, were portraits of the young king; but they also concealed an even better likeness made in burnished gold, with blue glass inlays, that was used as a mask over the mummy as it lay on its back, face upward. These nested coffins were placed within a beautifully carved rectangular quartzite sarcophagus with granite lid that was in turn covered by three gilt wood shrines decorated with offering scenes and religious texts inside and out. Although this is the only virtually intact New Kingdom royal burial that survives, several stone sarcophagi found in other royal tombs at Thebes had either anthropoid shape or lids bearing carved mummiform figures of the deceased kings. The burial of the Twenty-first Dynasty king Psusennes I at Tanis (biblical Zoan, Dja'net, Şan al-Ḥagar) had incised silver coffins; that of the Twenty-second Dynasty king Shoshenq II had a hawk head, symbolizing the king's identification with the god Horus.

The New Kingdom and later anthropoid coffins of nobles and artisans varied greatly in quality. They generally bore scenes of protecting deities in registers down the front of the body.

A feathered decoration of enveloping wings represented the same protection symbolized by four standing goddesses carved at the corners of sarcophagi with wings outstretched or the free-standing protecting figures of the goddesses Isis, Nephthys, Neith, and Selket around the shrine of Tutankhamun's canopic chest. The rotund stone anthropoid sarcophagi of the Twenty-sixth Dynasty have a variety of religious texts inside and out, and a representation of the sky-goddess, Nut, is especially common on the inside lids of all Late Period coffins and sarcophagi. In the Roman Period, in addition to the gilt or painted masks that protected the mummies' faces, encaustic portraits on wooden boards were wrapped over many mummies' faces as protection and to preserve the visage. Even Early Christian burials in Egypt included well-wrapped mummies with face bundles to protect the face or at least maintain the human form.

PROVISIONS, FOOD, AND FURNITURE

From earliest times basic provisions appeared on standardized lists that included various kinds of breads, beers, oxen, fowl, several kinds of wines, and linens. The stores in Tutankhamun's tomb may have included much more than was usual. There were jars of fat and oils and baskets of grains, fruits, and vegetables. There were also fabrics, clothing, sandals, gloves, bows and arrows, slings, boomerangs, sticks, swords, shields, full-sized chariots, ship models, lamps, vases, stools, chairs, beds, statues, jewels of all kinds, musical instruments, writing equipment, fans, drinking vessels, toys, games, scepters, seals, and shrines. These must have been a combination of objects produced and provided specifically for the burial and treasured items that the young king had used in life. The quantity of goods in this comparatively small tomb was staggering, and debate continues over whether so much could have been buried in each of the New Kingdom royal tombs.

From the tomb-robbery papyri, which record inspections at the end of the Twentieth Dynasty,

we know that almost all the Theban tombs had been plundered by the Twenty-first Dynasty; therefore much of the material could have been recycled, just as the stone of the mortuary temples was. Stones could be reset and metals could be reused. Apparently each tomb generally had personalized pieces rather than obvious "heirlooms," as is illustrated most fully by the objects found in Tutankhamun's tomb.

One object found in tombs, including that of Tutankhamun, was a low flat planter box in the shape of the god Osiris. This "bed of Osiris" was filled with soil, sown with seeds of grain, watered, and allowed to germinate and grow a little before being wrapped like a mummy and placed in the tomb. This sprouting Osiris symbolized the god's connection with the fertile Nile, as well as his connection with death and rebirth or resurrection.

From early times models of the provisions were deposited in tombs to guarantee that the supplies would last. This practice was taken a step further by depositing models of the servants responsible for the provisions so they could continue to provide for the deceased in the afterlife. The walls of Old Kingdom mastabas were covered with scenes of daily life that had similar purposes, and they continued to form part of the decoration, in varying proportions to the ritual or autobiographical scenes, through most of Egypt's history.

In the New Kingdom, a different type of figurine with a slightly more religious and magical purpose became very popular. These Osiris-shaped figurines, called *ushabtis*, or "answers," were intended to do any work that the deceased, with whom they were buried, might be called upon to do in the afterlife. According to the text of chapter 6 of the *Book of the Dead*, which is written on the *ushabtis*, they will answer "I am present" whenever menial tasks such as moving sand from one place to another might be required. With one figure for every day of the year and foremen to serve over them, boxes containing almost four hundred *ushabtis* were common in the Third Intermediate and Late periods. Some of these figures were nicely carved or molded with painted or incised text, but many were crudely made and bear only the deceased's carelessly written name.

CONCLUSION

Optimistic by nature, the Egyptians hoped that all bodily and spiritual components of their persons would survive in the afterlife. They wanted to benefit from the provisions entombed with them as well as from the continuing offerings that they endowed. Mummification, the Opening of the Mouth ritual, and elaborate burials were all part of the earthly preparation process, while vindication in a last judgment, guidebooks to the beyond, and magical spells to pass by demons safely were all anticipated in funerary texts that could clearly be useful after death. Punishments such as multiple deaths or being annihilated could generally be avoided by those who prepared properly for death. Desired goals in the afterlife may have varied more on the basis of religious beliefs than on social status, but nothing prevented a person from having the books of several different religious traditions buried with him. Although there were certainly many levels of belief and disbelief, as indicated by both the religious and secular texts that survive, it is clear that a large proportion of the Egyptian population was very much concerned with religious preparations for death.

SEE ALSO **Builders of the Pyramids** (Part 5, Vol. II); and see the following chapters earlier in this section: **Myth and Mythmaking in Ancient Egypt**; **Ancient Egyptian Religious Iconography**; and **Theology, Priests, and Worship in Ancient Egypt**.

BIBLIOGRAPHY

Primary Sources

For the ancient texts, see R. O. FAULKNER, trans., *The Ancient Egyptian Book of the Dead*, edited by CAROL ANDREWS (1972; rev. ed. 1985; 1990); R. O. FAULKNER, trans., *The Ancient Egyptian Coffin Texts*, 3 vols. (1973–1978); R. O. FAULKNER, trans., *The Ancient Egyptian Pyramid Texts* (1969); JEAN CLAUDE COYON, *Rituels funéraires de l'ancienne Egypte* (1972); ERIK HORNUNG, *Ägyptische Unterweltsbücher* (1972); LEONARD H. LESKO, *The Ancient Egyptian Book of Two Ways* (1972); and EBERHARD OTTO, *Das ägyptische Mundöffnungsritual*, *Ägyptologische Abhandlungen* 3 (1960).

Secondary Works

For a general work on Egyptian religion, including mortuary beliefs, see JOHN BAINES, LEONARD H. LESKO, and DAVID P. SILVERMAN, *Religion in Ancient Egypt: Gods, Myths, and Personal Practice*, edited by BYRON E. SHAFER (1991). On mortuary beliefs, see SUE D'AURIA, PETER LACOVARA, and CATHARINE H. ROEHRIĆ, *Mummies and Magic: The Funerary Arts of Ancient Egypt* (1988); ALAN H. GARDINER, *The Attitude of the Ancient Egyptians to Death and the Dead* (1935); JAMES HAMILTON-PATERSON and CAROL ANDREWS, *Mummies: Death and Life in Ancient Egypt* (1978); HERMANN KEES, *Totenglauben und Jenseitsvorstellungen der alten Ägypter* (1926; 2nd ed. 1956); and A. J. SPENCER, *Death in Ancient Egypt* (1982).

Witchcraft, Magic, and Divination in Ancient Egypt

J. F. BORGHOUTS

EGYPTIAN MAGICAL PRACTICE aimed to achieve a desired effect by symbolic means, usually in the form of a verbal utterance (such as a spell) that could be accompanied by a ritualized action involving an object or a certain combination of ingredients. The desired effect was to be achieved through an impersonal force for which several names existed, the most important being *ḥkʿw*. Often the force itself was not mentioned, but rather the effect it created or the form it assumed, such as (“bitterness”), *tʿw* (“breath”), or *bʿw* (“manifestation”). When a magical object symbolized its purpose adequately, as in the case of an amulet, it could work by itself.

The number of symbolic forms in Egyptian religion is so enormous that the term “magic” can be applied all too easily to almost any belief. It is therefore necessary to define more precisely what is meant by the term and to discuss how the practice of magic differed from cult worship while being similar to the cult in procedures and paraphernalia. In Egyptian cult practice, the activities of deities were accompanied and supported by rituals, and the deities themselves were praised in numerous hymns or approached with requests in prayers. The relationships with the divine as emphasized in the cult reflected the integration of most Egyptian gods into na-

ture. Cult activities followed a regular pattern that was synchronized with nature through many rites set by local sacred calendars. The cult practice was considered a duty for humanity and a guarantee that life itself would be maintained. It did not have a strongly coercive character, in that it reflected the concept that the gods, as essentially cosmic powers, were expected to take care of what they symbolized. Cults made these human projections visible and underscored the periodicity of life that was part of the divine system. (See also “Theology, Priests, and Worship in Ancient Egypt,” earlier in this volume.)

Magic, by contrast, while also involving human contact with supernatural powers, was intended to exploit spiritual possibilities for specific, unforeseen occurrences. An enlightening example of this contrast comes from three passages from a late cult book (P. Jumilhac). The first passage discusses how to care for services for the god Osiris in a temple: “If the quantity of offerings on its altars is poor, the same will happen in the entire country: the life of the living will be poor. If there is a large quantity of offerings in this place, abundance will occur in the entire country and every belly will be filled with the tree-of-life (grain). . . .” The text fur-

ther describes the negative consequences of neglect of these services: "If one does not carry out all the rituals of Osiris at their appropriate times, the plague of the year will occur in the Two Lands, murderous demons (*h'jtj*) will come forth, robbing what exists in Egypt, the Nine Gods of Osiris setting snares in Egypt, while (the god) Anubis is on the eastern mountain-range." The text then goes on to say, "If one fails to behead the enemy-figure in front (made) in wax, on papyrus, in acacia-wood or *hm'*-wood, following all the rituals of the sacred text, the foreign countries will rebel against Egypt and fighting and uproar will occur in the entire country." The first two passages testify to the Egyptian obsession with continuity in the cult. The third points to a different purpose: the symbolic prevention of a danger. This is the primary purpose of Egyptian magic (as *hk'w*): to avert dangers, rather than to maintain natural cycles or to produce supernatural wonders. The three passages taken as a whole also show, however, that the cultic and the magical were together part of the regular program of a temple and that they complemented each other.

The central force in nature was the sun (Re), so the solar cult permeated every fiber of Egyptian religious life. The course of the sun, too, was often accompanied ritually in the cult, as in the texts for "guarding the hours" in temples. This is illustrated in the following passage of a nonroyal hymn on an ostrakon from Dayr al-Madina in the Ramesside period: "An adoration of Re when he sets in life, by the decorator Hori. Whereby he lets the bark of Re sail on in peace, while the crew is in joy." "In peace" points to the overcoming of danger, and in the larger, originally royal, cosmographic text from which this passage was adapted (the *Book of Day*), the solar bark is described as having been assailed by the demon of chaos, Apophis, and successfully defended by its divine crew. In the following passage from a magical text, however, the evocation of this dangerous situation served a different purpose: "If the poison rises upward, then the bark of Re will founder on the spine of Apophis." Here the solar bark's predicament is likened to the situation of a patient suffering from scorpion venom; if the patient continues to suffer, the bark will collide with the monster of chaos. The last two examples cited refer to the same cosmic

danger, but while the cultic text approaches it in a spirit of participation with the divine crew, the magical practitioner exploits it for a purpose of his own.

Origins and Characteristics of Magic

As in many other cultures, the Egyptians based their belief in the power on its antiquity. The personification of magic, Heka, states in a monologue,

I am he whom the Sole Lord made before two things came into being on earth . . . I am indeed a son such as Atum brought forth; I am charged with the protection of what the Sole Lord has ordained . . . To me belonged everything even before you had come into being, you gods; go down, you who have come late! I am Heka! (Adriaan De Buck, *The Egyptian Coffin Texts*, vol. 3, spell 261)

The text mentions a recurrent aspect of magic: it characteristically serves to protect. This prophylactic character of magic, in this case in the divine sphere, is confirmed by a similar statement in the *Instruction for King Merykare*, which describes magic as a gift from the creator to humanity: "He made for them magic (*hk'w*) as a weapon in order to ward off the stroke of an event, against which day and night watch is kept."

Besides the divine origin of magic, which is also reported in other sources, a number of passages mention what seem to be physical aspects of this mysterious energy. It appears to be something mobile which will move upward, for instance, when applied in the form of an amulet to the toes of someone suffering from a headache: "what is applied to the lower part will heal the upper part." A magical text or image on a stela or statue may be sprinkled with water, and when this water is drunk from a depression in the base, the power it generates will spread through the body. In the netherworld, magic can be commanded to come from any place to its owner. It is said to reside in the belly, among other places. It may alternatively be located in the heart, which is also susceptible to magical influence. Moreover, magic may take the form of a word or spell, and even carry a name, so that its point of origin can be identified. Examples like these illustrate a conception of magic that alternates between the physical and the spiritual. The for-

mer predominates in early texts dealing with magic, especially in sources describing the underworld.

So far, I have described the most frequently attested form of magic, *hk'w*. A less common conception is *akhu* (*'hw*). While *hk'w* was practiced by deities as well as by people, *'hw* was largely confined to the divine sphere (a literal translation is "luminosity"). In functional terms, *'hw* is a "creative energy," which *hk'w* is not. Thus the god Shu claimed descent from the creator-god through the latter's *'hw*: "he created me from his heart, he made me by his *'hw*." The miraculous appearance of the inundation was due to it: "how beautiful is he, this rejuvenated god whom Re made with his *'hw*." Yet the two terms also occur in parallel; for instance, one text states that "Horus has killed it (the poison) with his *hk'w*," and another states, "he has killed it with his *'hw*." Here, both writings are in a defensive context, but while the first author had its defensive aspect in mind, the other thought of the energy of a deity, which by its very presence ontologically would dispel anything that might set itself in its path.

The context of *b'w*, literally "manifestation," was quite different. Like *'hw*, it belonged to the sphere of the gods. In practice, its meaning comes down to "power" or "possession." As is shown later in this chapter, it was generally experienced as a punitive act by a god or goddess, but was also on occasion ascribed to the king.

Approach to the Evidence

One of the difficulties in reconstructing Egyptian religion is that it is often hard to find connections between surviving texts and artifacts. Because texts are the more informative of the two types of source, the most reliable information about Egyptian magic and magical practice comes from the spells. Most descriptions of magical practices are indeed to be found in literary texts, and they may use literary imagery and exaggeration. In this chapter the spells themselves form the chief approach to understanding magical practice. Often a spell—*r'* ("spell") and *šnt* ("conjunction," literally "encircling") are the most common terms—mentions objects used in the rite or reveals the practitioners' attitudes or procedures.

General Procedures

Because magic was regarded as a defensive weapon, its use was tantamount to an act of war involving attitudes different from those of the cult. As a snake spell puts it, "a mouth against a mouth, a tooth against a tooth!" A magician could be called a "warrior," and the concept of a battle between healer and disease is found even in medical texts. This bellicose tone clearly distinguishes magical spells from medical prescriptions and most cult texts.

The procedures of magic could be quite rational. First, it was important to identify the enemy. The cult combated recognized enemies of the king or of the pantheon, such as Seth or Apophis; these activities were carried out at regular times in a temple's ritual program. In the sphere of private life, it was necessary first to establish whether the cause of an ailment was natural or supernatural. A surgical treatise, for example, concludes that the ailment of someone who had received a blow on the head but suffered no extensive injuries was due not to physical wounding but to "something entering from outside," qualified later in the text as "the breath of a god or dead one." Because the earliest known papyri with prescriptions for health care contain both medical and magical remedies, a case like this one probably required a combination of treatment, rather than a different practitioner. Medical aid alone might be sought against a variety of diseases, but for certain ailments such approaches were lacking. Thus, no treatment for the effects of scorpion- or snakebite occurs in the corpus of medical texts. They were typically to be remedied by magic. In other words, technical procedures based on medical and magical knowledge complemented each other and belonged to a larger body of knowledge, just as, on the plane of theology, magic and cult were complementary. In spite of the rather vehement tone of many magical spells, the initial procedure could be just as rationally based as the medical investigation described above. (See also "Medicine, Surgery, and Public Health in Ancient Egypt" which immediately follows this essay.)

Indeed, diagnostic considerations occur in a New Kingdom magical handbook on causes of death. Proceeding from the physiognomy of pa-

tients, which was related to particular gods, the text contains the following entry:

As for a man [under the death] of Osiris: he is in great distress, like a man who is (already) dead. He jerks with his legs and his hands while his head is tense, his face black while his mouth twitches, the smell of his mouth being like dry myrrh and his eyes being closed. When later he has recovered and he manages to sleep for a long period, you must make for him the figure of Osiris, the new moon, the reclining dog, the top of the *'tf*-crown, the "headless one," and all the writings for averting death. Fumigate him with dry myrrh. . . . (Papyrus Dayr al-Madina I, verso 2.4-8)

Other texts document consultations with a wise woman (*rht*), apparently a specialist in mythology, in order to determine which particular influence (*b'w*) of a god or goddess was responsible for a problem. The following categories of enemies can be distinguished in magical spells for everyday use: (1) anonymous agents referred to by a number of general terms, such as "dead ones, enemies, opponents"; (2) physical ailments, such as headaches and pains in the belly; (3) ailments whose nature is unclear; and (4) individual demons, that is, embodiments of one of the former categories, as well as gods.

In most spells, the problem at hand is alluded to rather than identified and described. After a heading containing the general purpose (for example, "a spell for the head"), the symptoms are often invoked in an accusatory tone: "you who knock on the temple, who make the eyes shut, who make the side limp, who distort the fingers, who enter the bowels, who walk about in the calves, who deliver your blows against his thighs!" describes a headache demon. This is rather different from the cool, clinical observations in the manuals cited earlier. Magical actions seem to have been emotionally charged, as in "the voice of the conjurer is loud when calling for the poison, like the voice of Re for his Nine Gods." Often cast in the form of a dialogue, the spells create a dramatic effect. Such is the case in the following: "My belly!" said Horus. "What?" said Isis. And Horus said: "I have eaten a golden *'bdw*-fish on the border of the pure pool of Re . . ."

The intentions or profanations attributed to an enemy could be indicated, as in this address in

a temple incantation against the demonic god Seth, who had offended the goddesses Isis and Nephthys: "you have said about the divine songstresses (the *mrtj*): 'it is of their misery that they have been singing!'" Or "you have said that you would strike a blow in this head of his in order to force your entry into this vortex of his, to smash these temples of his," in a spell citing a headache demon torturing a patient—another example of "something entering from outside." The intentions of demons were often represented as unnatural, as when in underworld contexts they were said to invite the deceased to eat feces or to walk with downcast head. Whenever possible, the enemy's outward appearance was described and ridiculed in order to maintain self-assurance and achieve ascendancy over him as soon as possible. In this manner another headache demon was addressed: "turn back, Sehaqeq who has come forth from the heaven and the earth, whose eyes are in his head, whose tongue is in his anus, who eats bread-of-his-buttocks, his right paw turning away from him, his left paw crossing over his brow, who lives on dung, whom the gods in the necropolis fear!"

Once the ailment had been classified, its effects had to be halted. Knots made in a strip of linen could serve this purpose. An attempt might also be made to reconstruct an unfortunate incident. This could lead to a presentation in which the enemy—for instance, the scorpion whose poison was creating havoc in someone's body—was likened to a clay model, so that its misdeed could be symbolically undone. In most cases, conjurer, patient (who could be one and the same), and enemy formed a triangle whose intensely personal relationship was transposed onto a higher level. They were often systematically incorporated into the world of the divine, with the conjurer as savior, the patient as the one the conjurer protected, and the enemy as the ultimate victim. A technically similar procedure occurs in mortuary rituals that aimed to transfigure the person and destiny of the deceased; the word for this is *s'hw*, meaning "glorifications," a term also found occasionally in magical contexts.

The magician's intention in reconstructing an incident was to find divine help in his quest for the sufferer's salvation. He selected an element or episode in the divine world that was similar

to the case at hand; this sometimes led to the identification of the human or animal sufferer with one or more deities. It could even lead to an enumeration of all the parts of his body in order to associate them with a series of divine entities. After one such enumeration it is said,

You cat here—there are no limbs in you devoid of a god. Each one of them is the protection of your body, from your head to the soles of your feet. They have slain and punished the poison of any male snake, any female snake, and any reptile that is in any limbs of this cat under my fingers. (J. F. Borghouts, *Ancient Egyptian Magical Texts*, p. 58, no. 87)

A fumigation with incense (*sn-ntr*, that is, “smell of the god”) was often a similar wholesale protective rite.

Whether a text assigned identities explicitly or implicitly, the purpose was the same: mythical precedents were invoked in order to save the patient. The precedents sometimes extended to complete stories about the gods; the dialogue-like form of many conjurations is another literary aspect. As a result, magical texts are one of the principal sources for applied mythology. Foreign religion was not excluded; Canaanite gods such as Baal, Yamm, and Reshep were evoked, and specialized themes elaborated, such as a particular relationship between Seth and ‘Anat. Nothing in the network of supernatural relations should go amiss, or else the whole cosmic order would be jeopardized. Such assertions have the superficial appearance of threats, but responsibility for them was often attributed to a god who was, of course, part of the same network, rather than to the magical performer himself.

The transposition of a problem onto the supernatural plane was not merely verbal, but could be supported by objects symbolizing elements of the operation, like the knots mentioned above. As one statement puts it, “the magic is strong on account of the medicine—and vice versa.” The material representation could be very mundane, as when the enemy was represented in the form of such substances as wax, wood, baked or unbaked clay, or stone, which were then ritually annihilated in a procedure known as exorcism. Protection might also utilize amuletic objects representing divine entities. An immense number of these are preserved, varying

from simple beads to sophisticated forms; many have been found in funerary contexts. A special category of protective object was the healing statue or stela, discussed below.

Spheres of Operation

The great majority of surviving descriptions of magical rituals belonged to funerary religion. They occur in bodies of texts like the Pyramid Texts of the Old Kingdom, the Coffin Texts of the Middle Kingdom, and the *Book of the Dead* of the New Kingdom. One purpose of the spells was to turn the deceased into another being, a spirit (*ʿh*), who belonged to the world of the divine where all forces of nature came together. This transformation, which took place in a world where the conditions of existence were completely different and even the food the deceased needed was symbolic, was achieved by means of a vast range of spells and rituals. Many of these were performed during the burial ceremonies, in which vast numbers of hypothetical modes of being and relationships were evoked. Although many dangers threatened the deceased’s newly acquired identity, this magic was essentially “productive.” Except in method, these magical rituals shared little with magical spells for use on earth, which were essentially intended to protect against everyday dangers in a more circumscribed sphere.

Within earthly life, ailments were ascribed to a variety of obscure forces enumerated in lists of categories, such as “male dead, female dead, male enemy, female enemy, male opponent, female opponent, male spirit, female spirit, intruder, passerby, trembler . . .” These ultimately prove to be “those living ones, the followers of Horus, who are under the supervision of Osiris, who though having grown old, do not die.” So gods could have demons under their command; indeed, a story of the Greco-Roman period tells how Osiris once ordered two demons to sow dissidence among men. The best-known demons are the “murderers” (*hʿjtj*), the servants of the lioness deity Sekhmet, who was dreaded especially during the last five days of the year (the “epagomenal” days). Demons acting individually or in bands, and the roaming dead, were a constant threat. They could inhabit out-of-the-way places, such as a royal tomb (as appears from a graffito in the cenotaph of Sety

I at Abydos) or pools left by the inundation. It was said of an evil roaming dead person, "any loss is due to him: the game seized in the field—it is he who does a thing like that. As for a loss on the threshing floor: 'it is the spirit!' so one says likewise."

The vexations of the demonic dead might possibly be stopped by keeping them content through a cult in the home. The great diversity of ailments and accidents attributable to these anonymous agents of evil was sometimes countered in catalog-like spells. For instance, a decree issued by Osiris mentions, among others, "death of his head, death of his eyes, death of his belly . . . death of a crocodile, death of a lion, death of a snake . . . death from collapse of a wall, death of drowning . . . death of a sycamore, death of *kaka*-plants, death of any rush" and many more. Because there were individual charms against minor irritations—for instance, "a spell for setting right a fishbone (stuck in the throat)"—the number of magical solutions for everyday problems must have been enormous.

But the demonic origin of ailments could also be stated in more precise terms. Most ailments were sited within the body. A number of spells against headache are known, especially against migraine (called "half of the head"). One such incantation exemplifies a typical procedure in which a healing instrument was consecrated. The spell describes the magician gradually pushing a mask with four openings protected by divine forces over the sufferer's head. The head was now considered a fortress, with only four gates to be defended. (In other descriptions, the seven openings of the head are referred to as vulnerable points that are placed under the special care of gods.) Once this was done, the masked head was declared to be that of Horus the Elder, a warrior god. Next, Khnum, the chief god of Elephantine and the mythical fashioner of the human body, sent an amulet in response to a written request by the magician. Finally a twig identified as a hair from the beard of Osiris was added. As a result, the sufferer's head was completely divinized, from crown to chin.

Pains in the belly were another group that was similarly ascribed to a demonic agency. Curiously enough, they occur together with problems of childbirth, which was speeded greatly by evoking the mythical examples of the god-

esses Hathor and Isis when they gave birth. There are a number of parallels between childbirth spells and texts and representations in the birth houses of late temples; as is often the case, popular and "official" religion have a common source. Spells against bleeding invoke the theme of the inundation kept back by a dam, made evident by a bead of red carnelian—the role of color symbolism was generally important, with red denoting danger. Magic used to protect young children is known both from spells and from special objects called "magical wands." These are curved, flat ivory amulets with representations of animal powers, demons, and gods alluding to cosmic danger and the victory of the sun-god, and thus likening this victory to the saving of the patient.

Several ailments were referred to by a consistent but poorly understood terminology. There are spells against "pain substances" (*whd*) and illnesses such as *nsjt* and *tmjt*. These were often personified; there is a male *whd* and a female *whd*. Just as demons were cataloged, so were the ailments they caused, as in "remove . . . your striking power, your ejaculations, your seeds, your harms, your digestion products, your oppressions, your wrongdoings, your torments, your pain substances, afflictions, fever, and inflammation," to which "your fluids, your nest, your dugouts, your putrefactions, all your bad things which you have caused as bad things in this flesh of his" are added later in the text.

The demonic agents who caused ailments were sometimes known in detail. The demon *Sehaqeq* was depicted as a young man hiding behind his "paw," as the text condescendingly says, following the description given in the spell. A fever was addressed as a living being, and an order was issued to a god to remove it to the other world where it belonged. The *samana* and *akhu*, demons borrowed from West Semitic religion, are described extensively.

Human beings could be another source of trouble. Dangerous Egyptian people and rebellious foreign princes were a regular target of magical rites. Annihilation rites carried out against their names and images on plaques, statues, and bowls in remote places such as a necropolis are known from the Old Kingdom onward. From the Middle Kingdom comes an intact find near the Nubian fortress of Mirgissa testifying to the ritual persecution of dangerous Nubians.

The largest numbers of this-worldly spells are those made against dangerous animals. The earliest example, dating to the Old Kingdom, deals with a herd of cattle swimming across the river and the danger of a calf being snatched by a crocodile. In most cases the enemies are scorpions, snakes, and a few animals, such as the larger desert fauna. A snake charmer's manual contains precise descriptions of a number of types of snake together with the kinds of illness their venom caused. Here, too, well-observed descrip-

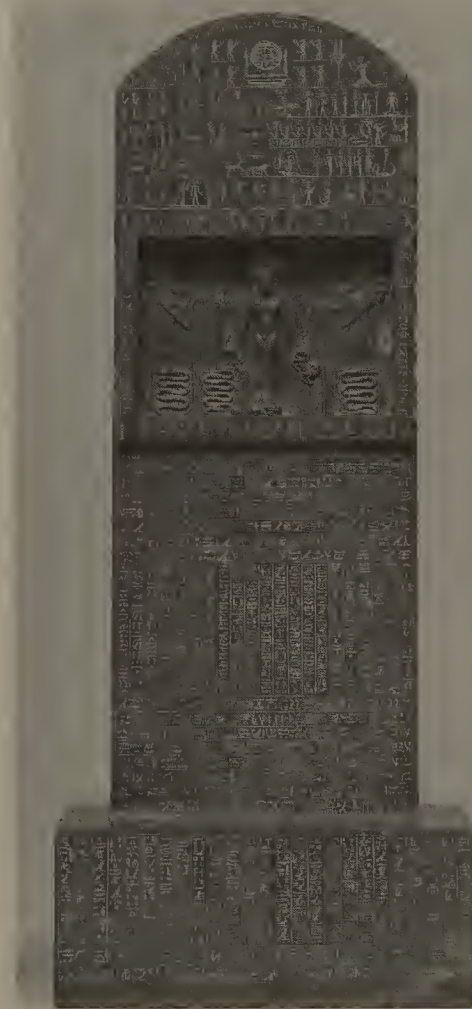
tion goes hand in hand with medical and magical treatments. A frequently used remedy was to identify the victim of a bite or sting with the young god Horus, who had been saved by the intervention of his mother, Isis. The attack was ascribed implicitly to Horus's eternal opponent, Seth. But the use of myth in magic was variable: in one case it is Seth who is saved by the combined efforts of Horus and Isis.

Even the sun god could fall victim to a sting. A well-known text tells how Isis attacked her

The Metternich Stela

The Metternich Stela, standing 85 centimeters (34 inches) high, was made for the priest Nesu-Atum sometime in the reign of the last indigenous king of Egypt, Nectanebo II (360–343 BCE), and was once set up in a public place. It is a typical example of a healing stela, a so-called *cippus* of Horus. Its surface is completely covered with magical representations and texts directed against dangerous animals, ranging from the chaos demon Apophis to scorpions and snakes. On top of the central figure is the disk of the rising sun, with a complex symbolic representation of the sun god inside it; one of the names of the sun god was "Magic." On the right the king is depicted kneeling, and on the left there is the ibis-headed god Thoth, "coming with magic" (*ḥk'.w*) in order to conjure the poison. As the caption states, the poison will have no power over the limb of someone who is stung, adding that Thoth is acting as he once did to protect the sun-god from mythical rebels. The statue enclosed in a shrine in the second main register shows the youthful god Horus keeping dangerous animals at bay, a feat often mentioned in magical texts, some of which may also depict him as the victim of their attacks. Indeed, one of the longest spells on this precious object tells how his mother, Isis, fleeing before the murderous god Seth and seeking refuge in the Delta, found her son Horus fallen sick. The help of the local inhabitants was of little avail, though a "wise woman diagnosed the ailment as a scorpion's sting." Isis invoked Thoth and he, in a long conjuration, saved the young child:

Wake up, Horus! Your protection is enduring! Comfort the heart of your mother Isis! . . . Recede, poison! See, you are conjured by the mouth of Re, you are averted by the tongue of the great god. The bark of Re stands still, it does not travel on. The disk is in its place of yesterday, until Horus is healed for his mother Isis—until the sufferer is healed for his mother in the same manner. Come to the earth—then the bark will sail on and the crew of heaven will travel on. . . .



The basalt Metternich Stela, or *cippus* of Horus, 30th Dynasty. THE METROPOLITAN MUSEUM OF ART, NEW YORK

The gods depicted in the shrine are also mentioned in the spell, and the patient is likened to the divine example of Horus. Meanwhile, the mention of the sun bark links the fate of the patient through Horus to the cosmos, and indeed there is a suggestion here that the cosmic cycle will continue only if the patient is successfully healed.

old father, Re, with a snake she had made herself. The aged god could not treat his burning pain because its cause was not a being he had himself created. He therefore had to surrender his most secret name to Isis, who could then transmit it to her son Horus—implying the transmission to him of kingship over gods and humanity. This magical text touches on three problems: the origin of snake venom and how it can be rendered harmless; the vulnerability of an aged ruler; and the necessity of a change in rule.

In the special mythology concerned with snakes and scorpions, there is a rare goddess named Tabithet, one of the mysterious “wives of Horus.” Magical stelae and statues for countering dangers, normally termed “*cippi* of Horus,” were repositories of healing power. A magnificent example is the Metternich Stela in the Metropolitan Museum of Art in New York City. The gods Horus and Shed (“Savior”) feature prominently in the many spells and divine figures on these objects. The spells are often carefully sited; thus, one spell invoking the “hand” of Atum in defense of the statue owner is engraved on the statue’s hand. Some *cippi* may have served in houses, but they also stood in the necropolis or in temples, serving a public purpose. A statue of Ramesses (Ramses) III was set up near a caravan road. Water poured over these stelae and statues transmitted their magic power to those who used them.

Long after pharaonic civilization had disappeared, magical texts survived in a new historical and cultural setting. A number of Coptic magical texts exhibit a mixture of ancient Egyptian, Greek, and Christian mythology.

WITCHCRAFT

Witchcraft, in the sense of an innate personal quality, is difficult to trace in Egyptian sources; there was no specific term for it. A damaged papyrus contains a tantalizing classification of dangerous people associated with the god Seth, the causer of unrest and confusion, in terms of their physiognomy. “Red of eye” is one of their features, which may be a reference to people with an evil eye, a class known from other sources. The evil eye was a force in its own

right. Plutarch’s *On Isis and Osiris* notes that the Egyptians eschewed people with a typhonic—that is, Sethian—appearance. In instruction texts, socially acceptable behavior is often exemplified by the polar opposites of the “silent one” (*gr*) and the “hot one” (*šmw*); the latter’s behavior was to be rejected. In other sources, the “hot one” occurs as someone’s personal enemy, and even as the scapegoat of a community. These few hints may contain the germs of an Egyptian conception of witches.

DIVINATION

Oracles

Oracular consultation of the divine will by kings and private persons provides the best documentation of divination. Some Middle Kingdom documents proclaim that a god assented to particular undertakings, and the assent may have been obtained through oracular consultation. The terminology and practice of oracles are not, however, definitely known until the New Kingdom. The basic procedure was to present a prepared question eliciting a yes or no reply from a god in procession. The general term for this practice appears to be *ph ntr*, “reaching the god.” Subjects for questions varied widely, including, for instance, nominations for office or accusations for thefts.

The most informative evidence comes from the village artisans at Dayr al-Madina. Here, the portable shrine of the local saint might halt at a certain place, name, or question. If it moved forward, this indicated an affirmative answer; a backward move indicated a negative answer. Thus, one day a certain Qaha went before the shrine and said, “‘My good lord, come out today! My two garments have been stolen!’ And he fetched the scorpion charmer Amenmose with the request, ‘read out the names of the settlement.’ He read them out and when one arrived at the house of the scribe Amannakhte, he nodded, so as to say, ‘they are with his daughter’—in the presence of many witnesses.” The public character of these events is noted in more than one source, and it seems that private manipulation of oracles was reprehensible. It may be that both the people carrying the litter, who were

the physical agents of its movements, and lay bystanders had a feeling for whether such decisions were publicly acceptable. Many such cases were also put before the village court (the *qnbt*). In the Third Intermediate Period, much of the private and official life of the city of Thebes was regulated by oracles. People wore tightly rolled pieces of papyrus as amulets around their necks. These were inscribed with oracular decrees issued by the local gods against all kinds of everyday incidents, illnesses, interventions by demons or gods, and so on.

Calendars

Calendrical lore is known from evidence of the Middle Kingdom and later. Each day had its own prognosis, testifying to the interrelation of cosmic and human life. Extensive handbooks from the New Kingdom are known. Longer periods of time might carry messages of their own, to be inferred from a specific event. A brief list of omens is known, organized according to months. The following example is illustrative:

Second month of the Inundation Season. Shentayet (*šnt'jt*), the good genius of this month. Should there be said close to you “it is not (*n*) I who am hot (*t'j*)!” or should a woman say “it is not I who am hot!” then you may say, “how good you are, month!” There is no fever in it.

Wordplay was evidently the reason for connecting the month with the omen, as was normal in Egyptian theological etymologizing.

Celestial Phenomena

From an early period, the stars were observed in order to measure time. Their use in divination is poorly attested, as is that of such other possible portents as the flight of birds. All the references to these practices are indirect. In the Eighteenth Dynasty, a foreign prince requested an “eagle conjurer” in a letter to the king of Egypt written on a cuneiform tablet; this may have been an Egyptian skill, but it is otherwise unknown. When during the Nineteenth Dynasty a Libyan chieftain retreated from an attack on Egypt, “the observers of their stars and all those who know their spells from looking at the winds” were cited as forecasting further defeats for him. Astrological omens are known in a Late Period text

preserved in a manuscript of Roman date, but they show strong Mesopotamian influence. Such traditions have a long life. Coptic peasant calendars of the ninth century CE forecast the nature of the months on the evidence of the constellations. A papyrus fragment of the much earlier Ramesside period mentions prognostications on the basis of thunderclaps.

Dreams

Dreams were a suitable medium for seeking contact with the next world, as is shown by some Middle Kingdom letters that surviving family members wrote to their deceased relatives. Kings might receive divine commands through dreams. When people slept in a temple precinct, gods might manifest themselves in dreams and give counsel; this practice is known as incubation. In one of the few Ramesside examples, a certain Qenhikhopeshef alluded to this in his thanksgiving hymn to the goddess Hathor: “I walked about in the Queen’s Valley, I spent the night in your forecourt, I drank water while I knelt on my knees.” How such revelations might influence an individual’s interpretation of contemporary events can be seen in notes from the Saqqara necropolis, which date to the Ptolemaic period. Handbooks for the interpretation of dreams are known from the New Kingdom onward; these include all kinds of portents taken from everyday life. Examples from a fairly extensive Ramesside copy state, “if a man sees himself looking through a window: good. It means being called by his god,” and “if a man sees himself shod with white sandals: bad. It means roaming the earth.” Other, more sophisticated dream manuals date from the Ptolemaic period.

Lecanomancy

Questioning the gods through the intermediary of a medium—a boy—who gazed down into a lamp or a vessel (Greek *lekanos*) filled with oil is known from an important magical papyrus of the Roman period and illustrated by statuettes.

PROFESSIONAL MAGICIANS

Titles indicating the exercise of a magical profession, such as *hk'w* (“magician”), *s'w* (“protec-

tor”), or *wʿb šhmt* (“priest of Sekhmet”), could be combined with that of “doctor” (*swnw*, “healer”), so as to make it impossible to differentiate strictly between the two callings. Magicians are recorded among expedition personnel and in households; as a text illustrated earlier shows, a scorpion charmer (*hrp-srqt*) was involved in an oracular investigation. The activities of the “wise woman” are known from the same village of Dayr al-Madina. True professional theologians were, above all, the “chief ritualists” (*hrj-tp*). While local magicians probably devised simple spells, it is known that the *hrj-tp* (pharaoh’s *hartummîm* in Genesis 41:8 and Exodus 7:1, for example) was connected with the “House of Life,” a center for theological studies where the literature known as the “manifestations of Re” (*bʿw rʿ*) was composed. This term describes magical writings among other genres.

BIBLIOGRAPHY

Principal Sources

- J. F. BORGHOUTS, trans., *Ancient Egyptian Magical Texts* (1978); I. E. S. EDWARDS, *Oracular Amuletic Decrees of the Late New Kingdom*, 2 vols., Hieratic Papyri in the British Museum, 4th ser. (1960); ABD EL-MOHSEN BAKIR, *The Cairo Calendar No. 86637* (1966); GERALD M. BROWNE, *Michigan Coptic Texts* (1979); ALAN H. GARDINER, *Chester Beatty Gift*, 2 vols. Hieratic Papyri in the British Museum, 3rd ser. (1935); ADRIAAN DE BUCK, *The Egyptian Coffin Texts*, 7 vols. (1935–1961); JAROSLAV ČERNÝ, *Papyrus hiératiques de Deir el-Médineh*, vol. 1 (1978); FRANCIS LL. GRIFFITH and HERBERT THOMPSON, *The Demotic Magical Papyrus of London and Leiden*, 3 vols. (1904–1909); ALAN H. GARDINER and JAROSLAV ČERNÝ, *Hieratic Ostraca*, vol. 1 (1957); JACQUES VANDIER, *Le Papyrus Jumilhac* (1961); ANGELICUS KROPP, *Ausgewählte Koptische Zaubertexte*, 3 vols. (1930–1931); KENNETH A. KITCHEN, *Ramesside Inscriptions*, 8 vols. to date (1975–1990); RICHARD A. PARKER, *A Vienna Demotic Papyrus on Eclipses and Lunar Omina* (1959); RICHARD A. PARKER and OTTO NEUGEBAUER, *Egyptian Astronomical Texts*, vol. 3 (1969); PLUTARCH, *De Iside et Osiride*, edited and with an introduction, translation, and commentary by JOHN GWYN GRIFFITHS (1970); JOHN D. RAY, *The Archive of Hor* (1976); ALESSANDRO ROCCATI, “Lessico meteorologico,” in *Studien zu Sprache und Religion Ägyptens: Festschrift Wolfhart Westendorf* (1984); SERGE SAUNERON, *Un Traité égyptien d’ophidologie* (1989); SIEGFRIED SCHOTT, *Urkunden mythologischen Inhalts: Bücher und Sprüche gegen den Gott Seth* (1929–1939); EMILE SUYS, “Le Papyrus magique du Vatican,” *Orientalia* 3 (1934); PASCAL VERNUS, “Omina calendériques et comptabilité d’offrandes sur une tablette hiératique de la XVIII^e dynastie,” *Revue d’Égyptologie* 33 (1981).
- Studies**
- HARTWIG ALTENMÜLLER, “Götterbedrohung,” in *Lexikon der Ägyptologie*, vol. 2 (1977); JORIS BORGHOUTS, “Magie,” *Lexikon der Ägyptologie*, vol. 3 (1980), “The ‘Hot One’ (*pʿ šmw*) in Ostrakon Deir el Médineh 1265,” *Göttinger Miszellen* 38 (1980), and “Divine Intervention in Ancient Egypt and Its Manifestation (*bʿw*),” in *Gleanings from Deir el Medîna*, edited by R. J. DEMARÉE and JAC. J. JANSSEN (1982); SERGE SAUNERON, “Le monde du magicien égyptien,” in *Le monde du Sorcier*, Sources orientales, vol. 7 (1966); ALESSANDRO ROCCATI and ALBERTO SILIOTTI, *La magia in Egitto ai tempi dei faraoni* (1987); YVAN KOENIG, *Magie et magiciens dans l’Égypte ancienne* (1994); GERALDINE PINCH, *Magic in Ancient Egypt* (1994); ROBERT KRIECH RITNER, *The Mechanics of Ancient Egyptian Magical Practice*, Studies in Ancient Egyptian Magical Practice, Studies in Ancient Oriental Civilization, 54 (1993); WILHELM SPIEGELBERG, “Der böse Blick im altägyptischen Glauben,” *Zeitschrift für Ägyptische Sprache und Altertumskunde* 59 (1924); HERMAN TE VELDE, “The God Heka in Egyptian Theology,” *Jaarbericht van het Vooraziatisch-Egyptisch Genootschap Ex Oriente Lux* 7, no. 21 (1969–1970); JOHN A. WILSON, “A Note on the Edwin Smith Surgical Papyrus,” *Journal of Near Eastern Studies* 11 (1952).
- HARTWIG ALTENMÜLLER, *Die Apotropaia und die Götter Mittelägyptens*, 2 vols. (1965); PIERRE LACAU, “Les Statues ‘guérisseuses’ dans l’ancienne Égypte,” *Monuments et Mémoires de la Fondation Eugène Piot* 25 (1921–1922); CLAUDIA MÜLLER-WINKLER, *Die ägyptischen Objekt-Amulette: Mit Publikation der Sammlung des Biblischen Instituts der Universität Freiburg Schweiz, ehemals Sammlung Fouad Matouk* (1987); W. M. FLINDERS PETRIE, *Amulets* (1914); ELISABETH SHERMAN, “Djedh or the Saviour: Statue Base OI 10589,” *Journal of Egyptian Archaeology* 67 (1981).
- GEORGES POSENER, “Les ‘afārit dans l’ancienne Égypte,” *Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo* 37 (1981); R. J. DEMARÉE, *The 3h ikr n Rʿ Stelae: On Ancestor Worship in Ancient Egypt* (1983); YVAN KOENIG, “Les Textes d’envoûtement de Mirgissa,” *Revue d’Égyptologie* 41 (1990); KURT SETHE, *Die Ächtung feindlicher Fürsten, Völker und Dinge auf altägyptischen Tongefässsch-*

Witchcraft, Magic, and Divination in Ancient Egypt

ben des Mittleren Reiches, Abhandlungen der Preussischen Akademie der Wissenschaften, Philologisch-historische Klasse 19.5 (1926); GEORGES POSENER, *Cinq figurines d'envoûtement* (1987); ROBERT K. RITNER, "So-called 'Pre-dynastic Hamster-headed' Figurines in London and Hanover," *Göttinger Miszellen* 111 (1989); JAROSLAV ČERNÝ, "Egyptian Oracles," in RICHARD A. PARKER, *A Saite Oracle Papyrus from Thebes in the Brooklyn Museum*, edited by RICHARD PARKER

(1962); JEAN-MARIE KRUCHTEN, *Le Grand texte oraculaire de Djéḥoutymose* (1986); SERGE SAUNERON, "Les Songes et leur interprétation dans l'Égypte ancienne," in *Les Songes et leur interprétation*, Sources orientales 2 (1959); AKSEL VOLTEN, *Demotische Traumdeutung* (1942); JEAN CAPART, "Les Anciens Égyptiens pratiquaient-ils la lécanomancie?" *Chronique d'Égypte* 37 (1944); ALAN H. GARDINER, "The House of Life," *Journal of Egyptian Archaeology* 24 (1938).

SEE ALSO **Medicine, Surgery, and Public Health in Ancient Egypt** (Part 8, Vol. III); **Witchcraft, Magic, and Divination in Ancient Mesopotamia** (Part 8, Vol. III); **Hittite Witchcraft, Magic, and Divination** (Part 8, Vol. III); and **Witchcraft, Magic, and Divination in Canaan and Ancient Israel** (Part 8, Vol. III).

Medicine, Surgery, and Public Health in Ancient Egypt

KENT R. WEEKS

A LOVE POEM of the New Kingdom makes reference to what Egyptologists and medical historians have considered two quite different and often unrelated approaches to medicine in ancient Egypt:

Seven days since I saw my sister,
And sickness invaded me;
I am heavy in all my limbs,
My body has forsaken me.
When the physicians come to me,
My heart rejects their remedies;
The magicians are quite helpless,
My sickness is not discerned.
To tell me "She is here" would revive me!
Her name would make me rise;
Her messenger's coming and going,
That would revive my heart!
My sister is better than all prescriptions,
She does more for me than all medicines;
Her coming to me is my amulet,
The sight of her makes me well!

(Papyrus Chester Beatty I, in Miriam Lichtheim,
Ancient Egyptian Literature, vol. 2,
The New Kingdom [1976], p. 185)

One of these approaches has been called empirico-rational medicine, and the other, magico-religious. This distinction is not one

the Egyptians themselves would have recognized. We may praise the former for its precocious anticipation of modern medical practice, and we may condemn the latter for embracing ignorant hocus-pocus. But for the Egyptians, there was no line separating the sacred and the secular. To call one treatment an objective application of rational knowledge and another nothing more than mindless gibberish does an injustice to the complex relationships that existed between the elements of Egyptian culture and forces on the ancient Egyptians a system of thought quite foreign to their mind. Empirical knowledge and magical acts were equally valid parts of their cultural system, and every physician—whether a full-time practitioner attached to a temple, the palace, the civil service, or the army or merely a local villager who served as a part-time healer—certainly knew something about both and would use both as the situation required. Even in Papyrus Edwin Smith, considered the most "modern" of the medical texts, there are magical incantations against pestilent winds, written in the same hand as the empirico-rational cases for which the papyrus is famous.

To the Egyptians, it was absolutely rational to recite prayers while administering drugs or bandaging wounds. Both activities were essen-

tial to the success of the treatment. In the poem above, the use of drugs by physicians (who were called *swnw*) does not stand in contrast to the use of prayers by priests (*w^bw*) or amulets by magicians (*s³w*). Rather, each represents a point on a single continuum of activities—a continuum that we might label “health care”—that moves not from magic to science but from simple treatment to complex. At every step, these activities mingle myth with observation, the sacred with the secular.

ETIOLOGY OF DISEASE

The most common of the several views Egyptians held on the etiology of disease offers an example of this approach. Herodotus wrote, “For three consecutive days in every month they purged themselves, pursuing after health by means of emetics and drenches; for they think it is from the food they eat that all sicknesses come to men.” Moderation in food and drink was frequently advocated in Egyptian texts, and overindulgence was seen as a cause of internal complaints. This was part of a more general observation that putrefaction was associated with death, disease, and infection and that such decay was known to occur in the intestines, where food was turned to excrement. Thus, the digestive process was potentially a disease-causing process.

Intestinal decay was thought to be the result of something called *whdw* (perhaps pronounced something like “wekhedu”), and therefore, ridding the body of *whdw* could halt the process of putrefaction. *Whdw* could develop inside the body or enter it from outside; once present, it would adhere to fecal material (or to pus) and then travel throughout the body via a series of vessels or conduits called *mtw*, leaving behind anything from dental abscesses to suppurating wounds, stomach cramps, eye infections, fevers, or mental disorders. Purgatives and enemas, which might rid the body of *whdw* before it accumulated and spread, and proper diet, which could reduce the putrefactive process, were therefore seen as disease preventatives, as were prayers and incantations against *whdw*.

Whdw, whose precise nature remains unknown to us, was sometimes said to be caused by worms (perhaps metaphorical ones), whose malevolent controlling force was called *âââ*. Some Egyptologists have tried to identify *âââ* as bilharzia (schistosomiasis haematobium), a debilitating disorder endemic even today in Egypt. Others argue that the Egyptians must so frequently have observed the presence of other, larger, parasitic worms in patients’ stools that they believed them to be the cause of all infection. But *âââ* could as easily be translated by such vague phrases as “semen of a god,” “poisonous substance of a dead man,” or “evil influence,” and recently it has even been suggested that *âââ* might have been a prototypical form of AIDS (Acquired Immune Deficiency Syndrome). As with *whdw*, the meaning of *âââ* cannot be firmly established.

Whatever the meaning of these terms, the care of the anus, in which *whdw* might thrive, and proper evacuations, by means of which *whdw* might be removed, clearly were believed to be basic to the maintenance of health. Nearly every medical papyrus dealt with the anus; a very high percentage of medical prescriptions involved purges. And in Egypt there were men called “Shepherds of the Anus” whose principal duty, it may have been, was to give enemas and to ensure that *whdw* would not accumulate in the body. (Similar titles are known from ancient Greece and from European court medicine as recently as the eighteenth century. Belief in the value of purgatives for maintaining health is still widespread.)

The Egyptians held other etiological ideas, too, each in part the result of careful—sometimes perceptive—observation, in part the result of a belief in supernatural forces. Diseases were attributed to dietary or intestinal imbalances, to helminthic agents (worms), to ethical or moral lapses that brought about divine punishment, to occult or magical forces, and to climatic changes. To state that a wound was caused by “the breath of an outside god” (Papyrus Smith 8, gloss D) was no less acceptable an explanation than to state that it was caused by a knife. The etiological underpinnings of Egyptian medical practice, in short, may seem simple by our standards, but they were neither less so-

phisticated nor less effective than those of other ancient cultures.

PHYSICIANS AND THEIR TRAINING

The names of about one hundred fifty medical practitioners are known from Dynastic times, fifty-two of them from the Old Kingdom. Little is known with certainty about their training, their duties, or their social position. Even the term *swnw*, which we usually translate as “physician,” probably had other meanings, and “health practitioner,” “healer,” or “one who treats the ailments of the upper classes” may be closer to the mark.

It has been argued that Egypt’s medical profession was divided into specialties. Herodotus made that statement and said that such titles as “physician of the belly” and “physician of the teeth” indicated their areas of practice. (Gynecology, among many other basic and—to us—obvious specialties, is not mentioned.) Some healers may have been more familiar with magical incantations than with the use of drugs, some better known for treating one ailment than another. But it would probably be an overstatement to call them specialists. Titles notwithstanding, evidence indicates that Egypt’s physicians were basically general practitioners. Some held several quite unrelated titles, and the *swnw* and other categories of healers were probably equally at home in the sacred domain as in the secular. There are two named individuals referred to as *swnw.t* (with a feminine ending), a writing that suggests that women could serve (albeit rarely) as physicians.

There is no evidence that medical training was acquired in formal schools. Rather, it seems to have been received on the job, with sons learning from their fathers and apprentices from their masters. The House of Life, called *pr ‘nh*, that was attached to various temples (five of them are known) has sometimes been thought to have been a place of medical training. More likely, it was a repository of papyri, medical texts, treatises on purification, rituals, and the interpretations of dreams, texts which might be

examined by healers and magicians and priests—a scriptorium rather than a school.

ANATOMY AND PHYSIOLOGY

The anatomical knowledge of the Egyptians was basic; not many more than two hundred anatomical terms, many of them only ill-defined references to body areas rather than terms for specific organs, have been identified. Many organs (the kidneys or individual bones, for example) are not mentioned. Others, such as the brain, apparently were thought to have no purpose.

It does not seem likely that those who practiced mummification contributed significantly to the physicians’ anatomical knowledge. Embalming was sometimes hasty, even crude, and autopsies would have been seen as violating the body. If classical writers are to be believed, mummification was performed by a hereditary and socially ostracized caste, called “paraschists,” with whom the *swnw* would have had no contact. (Therefore, the reference in Genesis 50:2 to Joseph commanding “physicians” to embalm his father probably should refer to “morticians.”)

Most anatomical knowledge probably was learned from “the kitchen and the cult”—that is, from the slaughter of animals and from veterinary medicine, especially from the treatment of cattle, which were highly prized and which physicians were known to treat. (There is no separate word in Egyptian for veterinarian.) And of course actual medical experience on work sites and battlefields and a physician’s own careful examination of his patients would also have contributed anatomical facts.

The Egyptians were a practical people, and their medical papyri were not speculative or theoretical treatises but straightforward how-to-treat-it manuals. The written evidence reveals little concern with why a drug might be effective or how it might work. Experimental science and the pursuit of theoretical knowledge for its own sake, such important parts of our culture, were not parts of theirs. There are, of course, a few exceptions. However, these do not offer orga-

nized and empirical explanations of a prescription's efficacy; they offer metaphysical ones.

Egyptian knowledge of physiology (to the extent that medical formulae adequately reflect it) was unsophisticated. Sections of Papyrus Ebers, Papyrus Berlin, and Papyrus Smith indicate that the Egyptians were aware of the pulse, for example, but not of the circulation of the blood:

The beginning of the physician's secret knowledge of the heart's movements and knowledge of the heart: There are vessels from it to every limb. As to this, when any physician, any Sekhmet-priest, or any magician applies the fingers of his hands to the head, to the back of the head, to the hands, to the place of the stomach, to the arms or to the feet, then he examines the heart, because all its limbs possess its vessels; that is, (the heart) speaks out of the vessels of every limb.

(Papyrus Ebers 854a)

These vessels, the *mtw*, were seen as tubes, all of which ran between the heart and the anus and then traveled individually to various parts of the body, carrying air, water, urine, tears, sperm, blood, or feces. (No distinction was made between arteries, veins, nerves, or tendons in this system; all were *mtw*.) A lengthy excursus in Papyrus Ebers describes the system:

There are 4 vessels in his nostrils, 2 give mucus and 2 give blood. There are 4 vessels in the interior of his temples which give blood to the eyes; all diseases of the eyes arise through them. . . . There are 2 vessels to the bladder; it is they which give urine. There are 4 vessels that open to the anus; it is they which give feces which water and air produce. Now the anus opens to every vessel to the right side and to the left side in both arms and legs when (it) overflows with excrement.

(Papyrus Ebers 854)

PATHOLOGY

Our sources for the study of Egyptian medicine and disease are of several different types. For paleopathologists, the most valued are human remains, skeletons and mummified bodies that have been found in varying states of preservation in cemeteries dating from the Paleolithic era onward. It has been from their examination that we have identified many of the health prob-

lems from which the Egyptians suffered. For example, dental problems, especially attrition (due in part to sand in bread and other foods), were common, with caries less so, and treatment seems not to have involved dental appliances or, indeed, anything more elaborate than drugs and breath fresheners. The material also commonly reveals broken bones, bone cancers, arthritis, obesity, baldness, and perhaps smallpox, polio, and malaria.

The pathological examination of Egyptian remains dates back to the late eighteenth century CE, when European nobility frequently enlivened a country weekend by unwrapping an Egyptian mummy. More-scholarly studies were undertaken in the early twentieth century, after the mummies of the New Kingdom pharaohs had been uncovered at Thebes in the nineteenth century and placed in the Egyptian Museum. Since then, paleopathological studies have become more elaborate; X rays, CAT scans, histological and serological tests and genetic analyses of bone, teeth, and soft tissues have become almost routine. So far, all of the biochemical tests of mummified remains have produced ambiguous results: neither DNA testing nor serological analyses can yet be considered reliable.

The remains indicate surprisingly few differences in diet, health, or types of injuries between social classes or dynastic periods. They suggest that infant mortality was high in all levels of society and that life expectancy was rarely greater than forty or fifty years—in spite of the Egyptians' frequently expressed hope that they would "be buried in the western necropolis in great old age." It is worth noting, however, that our samples of human remains are never statistically representative of Egyptian society as a whole: virtually all of our material—and there is actually not all that much of it—is from Egypt's upper classes, and the processes of mummification and dessication that these remains have undergone have sometimes destroyed potentially valuable material or adversely affected modern test results. However, they have revealed, among other ills, lung diseases such as emphysema and tuberculosis, pericarditis, kidney ailments, leprosy, periostitis, smallpox, and parasitic diseases. Evidence of trephination (cutting a hole in the skull to relieve pressure) and amputation is at best questionable. The increas-

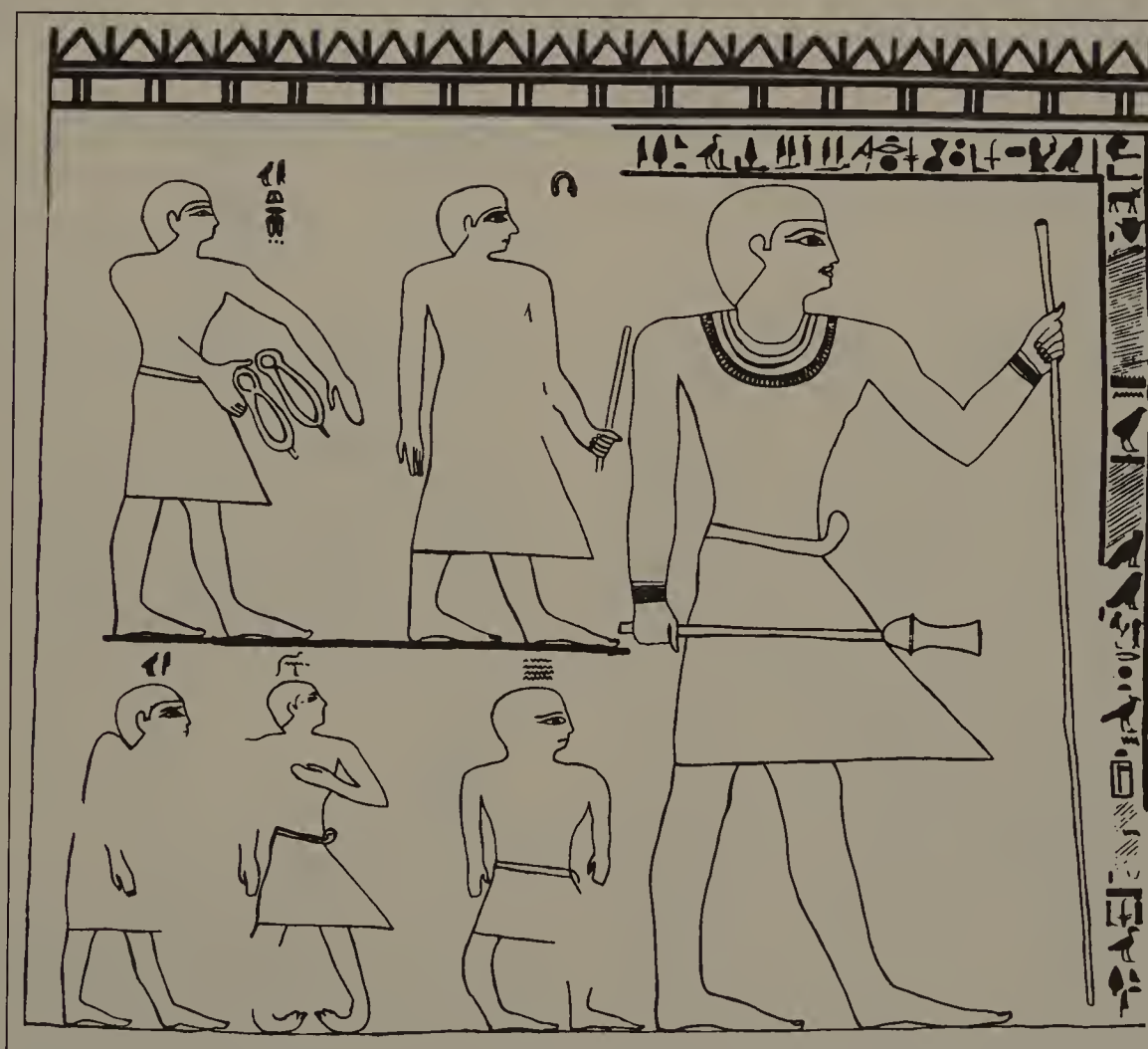
ing awareness among archaeologists that human remains are worth saving and studying should add substantially to our paleopathological knowledge in future years.

Epidemics very likely occurred in Egypt, but evidence of them cannot be found in human remains and they are not referred to in the medical papyri. Attempts to see proof of their existence in such phrases as "the Asiatic disease" or in references to pestilent winds are guesses based largely on Hittite, not Egyptian, sources.

The spread of disease in Egypt was undoubtedly facilitated by poor sanitation. Egyptians bathed regularly (according to classical writers), shaved their entire bodies, and worried about body odor and bad breath. There is archaeological evidence that at least some upper-class homes had latrines. (Toilets are also found in

several tombs of the Second Dynasty, perhaps an indication that *whdw* was a concern even after death.) However, the concept of contagion was not known, and one may imagine that the hygienic standards of most ancient communities were no better than in the poorest and most isolated contemporary villages. Recent excavations of ancient town sites, such as Akhetaten (Tell al-Amarna), confirm this; even the largest and most luxurious homes, well built and well maintained, lay in squalid quarters surrounded by great heaps of garbage, open sewers, and thousands of flies.

Representations of human figures in Egyptian art provide evidence that complements the physical remains. Depictions of dwarfs and hunchbacks, persons with clubfeet, inguinal and scrotal hernias, baldness, obesity, and emaci-



Middle Kingdom official shown in his tomb at Beni Hasan accompanied by five members of his household staff. Figures in the lower register (right to left) represent a dwarf, a clubfoot, and a hunchback. P. E. NEWBERRY, *BENI HASSAN* (1891)

ation are common in scenes found in private tombs, especially those of the Old Kingdom. The activities in which these persons are shown suggest that the Egyptians associated many physical attributes with specific socioeconomic groups. Hernias (or the scrotal swelling often associated with bilharzia) are shown only among fishermen, boatmen, and papyrus gatherers, jobs that ensure frequent contact with river water. Achondroplastic dwarfism is seen among enter-

tainers, personal retainers, and craftsmen allied to the god Ptah. Corpulence is found especially among members of the upper classes; patterns of baldness differ among social groups. In ancient Egypt, too, anatomy was destiny. (Egyptologists are increasingly doubtful that the anatomical peculiarities seen in representations of Amenhotep [Amenophis] IV [Akhenaten] and his family have any pathological significance; they may simply be iconographic conventions.)



Papyrus gatherers, showing evidence of scrotal enlargement, abdominal distension, and baldness, from the Fifth Dynasty tomb of Ti, Saqqara. DRAWING BY SUSAN WEEKS AFTER HENRI WILD, LE TOMBEAU DE TI, VOL. 3 (1966)

Scenes of health practitioners at work are not common. There is one Old Kingdom scene of young men being circumcised and another from the Twenty-first Dynasty. A few scenes from the New Kingdom or later depict childbirth and embalming, and the odd scene shows eye treatment, pedicure, and the setting of a dislocated shoulder (or, perhaps, a massage). One Ptolemaic relief (at Kom Ombo) may depict surgical instruments. But that is all.

Taken together, mummies, skeletal remains, and objects of art do not provide a comprehensive picture of Egyptian health. Even less do they offer a complete picture of Egyptian medicine.

Greek and Latin texts do little to fill in the blanks. From these texts, for example, we know that circumcision was performed on groups of boys aged six to twelve and that excision was perhaps performed on young girls, but no details are given. (Circumcision seems to have been a religiously inspired operation, in spite of Herodotus's claim that it was a matter of cleanliness. It was practiced from the earliest periods of Egyptian history onward.) But, except for generous words of praise—and the foreign reputation of Egyptian medicine both during and after Dynastic times was unsurpassed—few specific comments about medical practice are given. In late antiquity Clement of Alexandria spoke of forty-two Egyptian hermetic books, six of which dealt with medical subjects—anatomy, surgical tools, diseases, drugs, ophthalmology and gynecology—but no evidence of these books exists. Neither is there any evidence of a book mentioned by Horapollo that allowed physicians to foretell the course of a disease.

MEDICAL PAPYRI

Fortunately, there is a source that does offer greater insight into medicine. More than a dozen papyri deal with medical subjects. All date from the Middle Kingdom or later, but all are likely to have been derived from, or to be direct copies of, texts of much earlier date. The Egyptians frequently claimed that their earliest kings and folk heroes, among them Imhotep, wrote treatises on medicine. A few prescriptions claim to

have been copied from much earlier sources, but the antiquity of the medical texts is most convincingly demonstrated by their frequent use of archaic orthography, grammar, and vocabulary. Most of the medical papyri known to us were purchased by nineteenth-century collectors from local villagers or dealers. Consequently, we have little information on their provenance. The following list, which excludes papyri that treat medicine only tangentially (such as the love poem quoted earlier), is arranged in chronological order:

Papyrus Turin 54003. Middle Kingdom; magical incantations against eye disease, snakebite, and choking on fish bones.

Papyrus Kahun. Middle Kingdom; written in hieroglyphic, not hieratic, script; 32 by 100 centimeters (13 by 40 inches); from Illahun; in University College, London; seventeen cases provide the basic source for our study of gynecology and birth prognoses.

Papyrus Kahun Vet. Middle Kingdom; very fragmentary; in University College, London; offers fascinating glimpses of veterinary medicine, especially veterinary ophthalmology and the treatment of cattle; its procedures and treatments are nearly identical to those of human medicine, and the same *swnw* may have treated both human beings and animals.

Papyrus Ramesseum IV and V. Middle Kingdom (approximately same date as *Papyrus Kahun*); written in hieroglyphic; from Thebes; now in the British Museum; IV deals with birth, protection of newborn, and contraception; V contains 20 prescriptions similar to *Papyrus Ebers's* (below) treatment of stiff joints.

Papyrus Edwin Smith. New Kingdom; 32 by 470 centimeters (13 by 188 inches); from Thebes; now in New York Academy of Sciences; forty-eight cases treat wounds of head, neck, chest, shoulder; verso magically treats pestilent winds, gynecological problems, the anus, and the aging process.

Papyrus Ebers. New Kingdom; 30 by 2,023 centimeters (12 by 809 inches); from Thebes, perhaps from same tomb as *Papyrus Edwin Smith*; now in University Library, Leipzig; 877 prescriptions deal with many subjects, including gastrointestinal disorders, wounds, burns and skin

diseases, gynecology, arthrology (stiff joints), eye diseases, tumors, baldness, halitosis, and possibly gonorrhea (syphilis was unknown); our principal source for the study of internal medicine and pharmacology; its introductory section proclaims its divine origin.

Papyrus Hearst. New Kingdom; 17 by 350 centimeters (7 by 140 inches); from Dayr al-Ballas, north of Luxor; now in the University of California at Berkeley's Bancroft Library; 260 prescriptions, 96 of which duplicate Papyrus Ebers; also treats snakebites, fractures; the small height of this and some other papyri may indicate that they were physicians' "pocket guides," not textbooks.

Papyrus Berlin 3027. New Kingdom; 16 by 217 centimeters (6 by 87 inches); 5 incantations against childhood diseases (charms A–E) and 17 incantations (F–V) to ease childbirth, protect infants, increase lactation.

Papyrus Berlin 3038. New Kingdom; 20 by 520 centimeters (8 by 208 inches); from Saqqara; 204 prescriptions; poor copy of prescriptions from Papyrus Ebers and Papyrus Hearst, plus fumigations, pregnancy tests; claims to be a copy of a Second Dynasty original.

Papyrus Chester Beatty VI (Papyrus British Museum 10686). New Kingdom; 21 by 135 centimeters (8 by 54 inches); origin unknown, but probably Dayr al-Madina; diseases of anus and digestive tract; recipes for treating the bladder, breast, heart.

Papyrus Med. London (Papyrus British Museum 10059). New Kingdom; 17 by 210 centimeters (7 by 84 inches); origin unknown; 61 prescriptions for such things as worms, burns, and barrenness, about half of them largely magical incantations.

Papyrus Carlsberg VIII. New Kingdom; very fragmentary; origin unknown; now in Copenhagen Institute of Egyptology; treats eye diseases, birth prognoses; duplicates other papyri.

In addition, there are several shorter papyri from Late Dynastic and Greco-Roman times dealing with medicine. These include Papyrus Brooklyn Museum 47.218.2., 48, 85, which deals with snakes, snakebites, and malevolent spirits; Papyrus Vienna D6257 (demotic), a collection of fragments from the second century CE dealing with skin diseases and various other complaints;

Papyrus Berlin 10456, a Ptolemaic papyrus with recipes against coughing; and Papyrus London-Leiden, a third-century CE demotic collection of medically directed spells, incantations, and recipes.

Finally, there are several Coptic papyri that reflect in varying degrees a more ancient heritage. Best known of these is Papyrus Med. Mashaykh, from the ninth or tenth century CE, in Cairo, with 347 prescriptions on eye diseases and intestinal complaints. Other Coptic papyri may be found in Berlin, Michigan, the Vatican, and the British Museum.

Papyrus Edwin Smith and the Treatment of Wounds

It is to Papyrus Smith that most medical historians turn first, because its approach to the examination, diagnosis, and treatment of wounds seems most nearly like that of a modern physician. Indeed, the papyrus is a most impressive document. Case 10 illustrates why:

Instructions concerning a wound in the top of his eyebrow.

If you examine a man having a wound in the top of his eyebrow, penetrating to the bone, you should palpate his wound (and) draw together for him his gash with stitching.

You should say concerning him: "(One having) a wound in his eyebrow. An ailment which I will treat."

Now after you have stitched it, (you should bind) fresh meat upon (it) the first day. If you find that the stitching of this wound is loose, you should draw (it) together for him with two strips (of plaster), and you should treat it with grease and honey every day until he recovers. (As for "two strips of linen," it means two bands of linen which one applies upon the two lips of the gaping wound, in order to cause that one [lip] join to the other.) (after James H. Breasted, ed., *The Edwin Smith Surgical Papyrus*, vol. 1 [1930], pp. 225–233)

Several features of this case should be noted: first, the logical order in which the physician proceeds from examination to diagnosis, to treatment; second, his methodical observations and the clarity of his subsequent instructions; third, the addition by the scribe of a gloss, or explanatory comment, in the margin of the text (in parentheses above), in which archaic words or

unfamiliar instructions are explained. These features are not unique to Papyrus Smith (they are also to be seen in Papyrus Ebers), but they are more common here.

Papyrus Smith was written for (and probably by) a physician or student, copied from an earlier papyrus (or papyri) whose archaic and technical terms, in sixty-nine instances, required explanation. The papyrus was probably used by one who treated soldiers or workmen on major construction sites. It contains, for example, directions to treat open wounds to the skull (cases 1–10); broken noses (cases 11–14); fractures and dislocation of the maxillary and temporal regions and the mandible (cases 15–27); injuries to the throat and neck (cases 28–33); dislocation of vertebrae or clavicles (cases 34–35); and fractures of the humerus, ribs, and sternum (cases 36–46), of the shoulders (case 47), and of the spinal column (case 48, fragmentary). If the papyrus did not break off at this point, it perhaps would continue in this head-to-toe fashion through the body.

What most impresses medical historians about Papyrus Smith is the way in which it proceeds after diagnosis. In some cases, it concludes that the wound is “an ailment which I will treat” and then prescribes a course of treatment. In others, it declares, “An ailment with which I will contend,” implying that the physician was less confident of the potential success of his approach. And in thirteen of the forty-six cases, we read, “An ailment not to be treated.” Here was a physician sophisticated enough (or honest enough) to recognize that his medical expertise had limits

and who believed that it was sometimes better to do nothing and let nature take its course than to tackle a hopeless or unintelligible case. Here is an example (case 5):

If you examine a man having a gaping wound in his head, penetrating to the bone (and) smashing his skull; you should palpate his wound. Should you find that smash which is in his skull deep (and) sunken under your fingers, while the swelling which is over it protrudes, he discharges blood from both his nostrils (and) both his ears, (and) he suffers with stiffness in his neck, so that he is unable to look at his two shoulders and his breast,

You should say regarding him: “One having a gaping wound in his head. . . . An ailment not to be treated.”

You shall not bind him, (but) moor (him) at his mooring stakes, until the period of his injury passes by. (after Breasted, ed., pp. 156–164)

Surgery was rarely performed (and would have been done with simple stone or copper tools). Instead, most treatments involved manipulation (such as the treatment of a dislocated mandible or fractured clavicle) or made use of bandages, swabs, plasters, splints, supports, and cauterization. Medicaments, often fresh meat or honey, were used, sometimes alone, sometimes with other treatment. The use of drugs in Papyrus Smith is limited.

Papyrus Ebers and Egyptian Pharmacology

It is to other papyri, especially Papyrus Ebers, that we must turn for information on Egypt's

The Egyptian Pharmacopoeia

Vegetable The most common sources of drugs were parts of the acacia, as well as figs, dates, celery, coriander, cumin, and sycamore figs. Others included aloe, anise, balanites, barley, beans, bryony, camphor, carob, cassia, castor oil, clover, cucumber, dill, ebony, flax, grapes, henna, henbane, indigo, juniper, labdanum, laurel, leeks, lettuce, lotus, melon, mint, mustard, persea, rush nut, senna, tamarix, terebinth, thyme, wheat, willow, and zizyphus.

Animal Antelope, beetles, cats, cows, dogs, donkeys,

fish, flies, frogs, gazelle, geese, goats, grubs, hedgehogs, lizards, mice, ostriches, oxen, pelicans, pigeons, pigs, ravens, sheep, and swallows. The body parts used were blood, teeth, bone, skin, flesh, fat, horns, eyes, testes, liver, heart, brain, uterus, and eggs, as well as animal milk and dung.

Mineral Alum, calamine, copper, faience, frankincense, myrrh, malachite, flint, clay, galena, natron, ocher, pumice, and salt.

extensive pharmacopoeia. That pharmacopoeia consisted of about six hundred simples, nearly all of them parts of plants, animals, and minerals native to the Nile Valley. Their variety indicates a wide knowledge of the natural environment and suggests, too, that Egyptian pharmacognosy was an indigenous development, with little debt to foreign traditions. Among the few simples to have been taken from abroad were pomegranates and olives (both introduced in the New Kingdom).

By far the most commonly used drugs were botanicals. Parts of insects and animals and ground minerals occur with much less frequency. Most of these drugs were to be taken orally, washed down with honey, wine, water, dew, or beer. However, they also were used as topical ointments, salves, or suppositories; occasionally they were burned, with the smoke then inhaled or used as a vaginal fumigant.

A check of any standard book on medicinal plants will indicate the possible benefits of the Egyptian pharmacopoeia, although it must be admitted that we are not yet certain that all of our translations of Egyptian terms are correct. Nevertheless, we know that many simples of whose translation we are confident did have pharmacological value. Some were strong emetics, laxatives, or purgatives and therefore popular for removing *whdw*; others had antiseptic, astringent, or antineuralgic properties. There were also diuretics, restoratives, and emmenagogues (to promote menstruation), among others. They were natural *materia medica* that often worked and that helped establish Egypt's reputation as a center of pharmaceutical knowledge. Greco-Roman travelers often praised Egypt's drugs, and several Egyptian prescriptions and tests—birth prognoses and the use of skinned mice, dew, and certain fumigants, for example—may be traced through classical and Byzantine medical traditions into medieval, Renaissance, and even later times.

Some scholars (albeit with significant exceptions) believe this reputation is one reason that the word "chemistry" may derive from Kemi, the ancient name of Egypt; that the word "pharmacy" may come from the Egyptian *phrt*, meaning "prescription"; and that the pharmaceutical symbol $\mathcal{R}$ might be a schematic derived from the Eye of Horus , whose parts were used in medical papyri to indicate drug quantities.

The words "migraine" and "cataract" also may be of Egyptian derivation.

Many Egyptian drugs, however, seem to have no pharmacological value. They were popular because of their magical or religious associations: yellow drugs might cure jaundice; red meat might prevent hemorrhaging; Horus, who was associated with the head, might be invoked against headache; turquoise, associated with Hathor, might be the preferred material for certain protective amulets.

Some drugs offered both religious associations and medically effective ingredients: the sycamore fig tree, for example, not only produced a pharmacologically effective latex, high in ficin content and useful for treating skin rashes, but was closely associated with Hathor and Isis. Similarly, green eye paint, whose copper compounds were antibacterial, had profound magico-religious associations. Indeed, because of the close ties between Egyptian religion and the natural environment, nearly every drug had some magico-religious association, and these were clearly as important in their selection as any pharmacological power they might have. Among the gods most frequently invoked in the healing process were Sekhmet, Thoth, Isis, Hathor, Khnum, and Heket. Papyrus Ebers attributes several of its prescriptions to the gods Re, Shu, Tefnut, Geb, Nut, and Isis.

The following is a typical prescription in Papyrus Ebers; it combines the magico-religious and empirico-rational approaches to medical treatment:

Another (prescription) for removing the red inflammation of both eyes:
carob pods (or perhaps colocynth)
acacia leaves
green eye paint
milk from a woman who has given birth to a boy;
to be made into a paste and applied to the outside
of the two eyes (*Papyrus Ebers* 408)

Apart from Papyrus Edwin Smith, the medical papyri are little more than collections of recipes, and their authors assumed that their Egyptian readers already had substantial prior knowledge of their world. One exception to this is Papyrus Ebers 251, which contains a description of the benefits of *Ricinis communis*, the castor-oil plant:

Knowing what can be made from the castor oil plant, something found in ancient writings, something useful to man. Crush the root in water. Place it on the head which suffers. The patient will soon feel as well as one who is not ill. Chew a little of the fruit with beer if the patient has a *why* in his feces. This is to cure illness of the belly of the patient. The fruit will cause the hair of a woman to grow. Pound it, make it into a paste, steep it in oil. The woman shall rub her head with it. Oil can be made out of the fruit to anoint a patient who suffers from a skin disease. He will be like someone to whom nothing has happened. He shall be anointed for ten days, early, so that the disease goes away. Really efficacious, tried a million times. (Manniche, pp. 142–143)

The disorders most commonly treated with drugs seem to have been skin and eye diseases and intestinal complaints. But one also finds prescriptions for gynecological problems; burns; bites; abscesses; ear, nose, and throat infections; worms; hematuria; coughs; ulcers; exanthemata; and blisters. There are also “cures” for baldness, recipes for cosmetics, and contraceptives. These last made use of pessaries of crocodile dung, honey and natron, or sour milk or acacia gum. The last two of these have been found to have spermicidal qualities.

There were pregnancy tests, too. One calls for watering a container of emmer wheat or barley with a woman’s urine. If it sprouts, the woman is pregnant; if it dies, she is not. Statistically, the test (which was tried a few years ago in Cairo) is a failure; chance would have produced about the same results. Nevertheless, it was widely accepted in the ancient world, and in medieval and Renaissance Europe as well. Some believe that it is one of the clearest examples of Egyptian influence on later medical traditions. Europe also seems to have taken from Egypt the belief that the penis was an extension of the vertebral column; the idea that sperm came from bone marrow; and thus the belief that a child’s bones came from his father’s sperm, his flesh from his mother.

EGYPT’S MEDICAL LEGACY

What are Egypt’s other contributions to later medical traditions? Clearly, its medical practice was a simple one, in spite of its exalted reputa-

tion in the ancient world. But the concept of *whdw* was of fundamental importance to classical medicine, especially to the Cnidian school. Treatments such as the use of honey as a salve, the use of sutures and tapes, and cauterization were all probably of Egyptian origin. And while it is difficult to attribute with certainty the use of common drugs to Egypt, some unusual practices—the use of hedgehog spines to treat baldness or of bats’ blood to remove unwanted hair; the feeding of fried mice to children desperately near death; the profound fear of human bites and the complicated treatment they were thought to require—may confidently be traced to Dynastic Egypt.

Perhaps Egypt’s greatest legacy, however, was not a drug or a treatment but something far more fundamental and little appreciated by Egypt’s heirs. Papyrus Edwin Smith shows that its practitioners were capable of withholding treatment if it seemed best to do so. Papyrus Ebers shows that its healers first used simple treatments for an ailment; only if those failed would they move to more-complex (or to more exclusively magico-religious) ones. Their papyri show them to have been able to admit that their medical practice was not infallible.

Unfortunately, these fundamentals of Egyptian medical practice did not travel well. Those who came in Greco-Roman times to study medicine in Alexandria took home with them drugs and incantations that would remain in near eastern and European traditions well into the nineteenth century. But Egyptian medicine was more than prescriptions. It was a set of systematic procedures, generally cautious—rare and precious attributes that went unappreciated and largely ignored by foreign physicians. Indeed, it would be more than two thousand years before medical practitioners would again hold an opinion of themselves and their art as wholesome as that of ancient Egypt.

BIBLIOGRAPHY

(Some of the quotations from Egyptian texts that appear above were translated by Kent R. Weeks, based upon the hieroglyphic original and German translation in Hildegard von Deines, et al., *Grundriss der Medizin*.)

The Medical Papyri

The most comprehensive study of the medical papyri is HILDEGARD VON DEINES, HERMANN GRAPOW, and WOLFHART WESTENDORF, *Grundriss der Medizin der alten Ägypter* (1954–1973), a nine-volume work containing hieroglyphic transcriptions, German translations, and commentaries.

General Works

General introductions to the vast literature on Egyptian medicine are common. Still the best, because of its broad cultural perspective and readability, is HENRY E. SIGERIST, *History of Medicine*, vol. 1, *Primitive and Archaic Medicine* (1951). GUSTAVE LEFEBVRE, *Essai sur la médecine Égyptienne de l'époque pharaonique* (1956), emphasizes the papyrus sources. PAUL GHALIOUNGUI, *The House of Life, Per Ankh: Magic and Medical Science in Ancient Egypt* (1973), is an excellent survey that treats pathological representations in Egyptian art especially well. A more recent contribution, with some valuable comments on the materia medica, is J. WORTH ESTES, *The Medical Skills of Ancient Egypt* (1989; rev. ed. 1993). And there are interesting comments in the amusingly written *The Healing Hand: Man and Wound in the Ancient World* (1975), by GUIDO MAJNO.

Specialized Works

A good introduction to Egyptian pharmacology is LISE MANNICHE, *An Ancient Egyptian Herbal* (1989).

WALTER C. TILL, *Die Arzneikunde der Kopten* (1951), reviews Coptic medicine and shows its close ties to ancient Egypt. The excellent article by JOHN R. HARRIS in *The Legacy of Egypt* (2nd ed. 1971), edited by him, discusses Egypt's contributions to later medical traditions. On *wḥdw* and its role in Cnidian medicine, see ROBERT O. STEUER and JOHN B. DE C. M. SAUNDERS, *Ancient Egyptian and Cnidian Medicine* (1959), and R. O. STEUER, *Aetiological Principle of Pyaemia in Ancient Egyptian Medicine* (1948).

There have been several studies of mummies and paleopathology. A comprehensive one is JAMES E. HARRIS and EDWARD F. WENTE, *An X-Ray Atlas of the Royal Mummies* (1980). *Science in Egyptology*, edited by A. R. DAVID (1986), is an extensive collection of studies on mummies, including an essay by SVANTE PÄÄBO, "DNA Is Preserved in Ancient Egyptian Mummies."

Bibliography

All the above references have excellent bibliographies. Articles on medicine in Egypt continue to appear frequently, often in obscure journals. The *Annual Egyptological Bibliography* (published since 1947) keeps track of such material and provides abstracts for each reference; it is published by the International Association of Egyptologists in Leiden.

SEE ALSO **Death and the Afterlife in Ancient Egyptian Thought** (Part 8, Vol. III); **Witchcraft, Magic, and Divination in Ancient Egypt** (Part 8, Vol. III); and **Medicine, Surgery, and Public Health in Ancient Mesopotamia** (Part 8, Vol. III).

Mathematics, Astronomy, and Calendars in Pharaonic Egypt

GAY ROBINS

THE EXACT SCIENCES comprise those branches of knowledge, discovery, and achievement that involve measurement and so can be quantified. In the history of science as a whole, they include the so-called hard sciences, physics and chemistry; but in ancient Egypt, these activities did not exist, so far as we know, as precise disciplines. Although craftsmen exhibited considerable expertise in certain applied technologies, such as metalworking, faience-making, and glassmaking, no details on the underlying quantification have come down to us. For practical purposes, therefore, the application of the term "exact sciences" is limited to mathematics, architecture, astronomy, and calendar-making. In all of these, it is important to recognize how able and innovative the Egyptians were, since there has been a tendency for commentators, particularly those with a pro-Hellenic bias or with a predilection for the Mesopotamian sexagesimal system, to underplay the Egyptian achievement, dismissing it as "primitive."

A major example in recent decades can be found in the influential writings of Otto Neugebauer, who considered that mathematics and astronomy "played a uniformly insignificant role

in all periods of Egyptian history" and that "the role of Egyptian mathematics is probably best described as a retarding force upon numerical procedures." In fact, at an early stage of their history, the Egyptians achieved feats of architecture that required a meticulous accuracy on a monumental scale that would be hard to achieve even today.

In making an assessment of Egyptian science, it is important to remember how limited the surviving evidence is. Records on papyrus are by their very nature far less durable than those on tablets of baked clay, so it is not surprising that many fewer Egyptian documents survive than cuneiform ones. Those that happen to have come down to us seem to be student manuals that should not be regarded as covering the whole range of contemporary knowledge. The emphasis in these texts appears to have been on methods, sometimes with a proof that the right answer has been reached, rather than on a rationale to justify procedure. The absence of such reasoning does not necessarily mean that it was not imparted orally. At this distance, the best one can do before passing judgment on the ancient Egyptians is to look carefully at available infor-

mation and infer from it what further expertise might plausibly have been within the range of their abilities.

MATHEMATICS

The branches of mathematics initiated and developed by the Egyptians include arithmetic (the manipulation of numbers, including fractions), algebra (the solution of equations, but without symbols for unknowns), geometry (the measurement of areas and volumes), and trigonometry (the measurement of slope). Of these, arithmetic was predominant, since it was part of all the other mathematical procedures. It was particularly important in the keeping of royal and temple accounts on which the administration of the state depended, in determining the taxes to be levied on agricultural land, in calculating the amount of material needed in architectural projects, and in obtaining the correct batter (degree of slope) for buildings with sloping sides.

In order to carry out these activities, scribes would have had to be trained in basic methods. The New Kingdom Papyrus Anastasi I, though written with satirical intent, indicates some of the things that a scribe might be expected to know. These include the calculations required to dig a lake, build a ramp, transport an obelisk, erect a colossus, and provide the logistics for a military mission. The purpose of surviving texts containing mathematical problems was probably to assist in the training of apprentices, not to create mathematical geniuses. However, it is probable that in the course of millennia, some gifted persons subjected to such discipline would develop above-average mathematical ability. For this reason, it would be rash to assume that no advance was made beyond what can be found in the scanty and mostly fragmentary surviving texts. And as we shall see, even these suggest that the Egyptian mathematical capability may have been far greater than previously allowed.

The Hieratic and Demotic Papyri

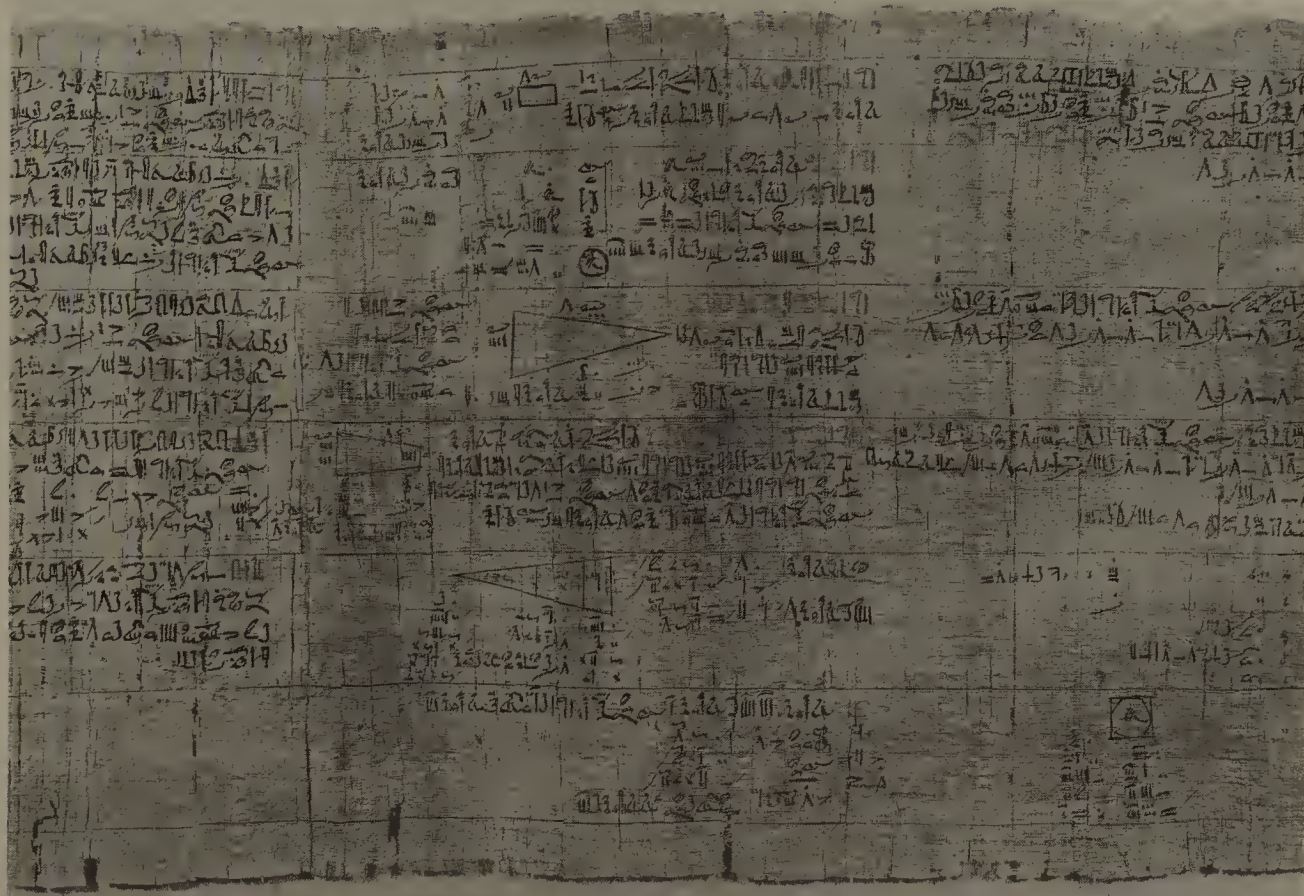
Until the Late Period, scribal documents were written in a cursive script derived from hieroglyphs called hieratic, and this would be

the first, and often the only, writing system a schoolboy would learn. The most important mathematical texts in hieratic are, first and foremost, the Rhind Mathematical Papyrus (RMP), followed by a number of incomplete Middle Kingdom documents, including the Moscow Mathematical Papyrus in the Pushkin Museum of Fine Arts, Moscow; Papyrus Berlin 6619; and the Kahun fragments found by W. M. Flinders Petrie in 1889 and published by F. Ll. Griffith in 1898. Various demotic mathematical papyri, some dating as late as the Roman Period, were published by Richard A. Parker in 1972. Demotic replaced hieratic as the scribal cursive script around 700 BCE in the north and 600 BCE throughout the whole country. The mathematics contained in these documents may not all be truly indigenous to Egypt. Problem 62 in Papyrus British Museum 10520 is of interest since it provides an approximation for the square root of 10, an irrational number, using a method corresponding to one given by the Alexandrian mathematician Heron in his *Metrica*. Problems involving the area and circumference of a circle contained in demotic papyri in the Cairo Museum use 3 as an approximation for π (pi), which was common in the Near East. This usage gives an inferior result to that given by the formula for the area of a circle found in the RMP.

The RMP was discovered in the precincts of the Ramesseum at Thebes in the middle of the nineteenth century and acquired by the British Museum in 1865. It is a virtually complete papyrus roll, although a few fragments of it are now in the Brooklyn Museum in New York. The papyrus as we have it was transcribed by a copyist named Ahmose writing in the Second Intermediate Period. He mentions that he was copying earlier work written down during the reign of Amenemhet (Ammenemes) III of the Twelfth Dynasty, who reigned around 1800 BCE.

Arithmetical Methods

Papyrus Rhind makes it clear how apprentice scribes were taught to handle the basic techniques of arithmetic based on a decimal system. These included the addition, subtraction, multiplication, and division of both whole numbers and fractions. Some of the procedures can be seen at work in three sums set out in Problem 41, where the volume of a cylindrical granary



Section of the Rhind Mathematical Papyrus, Problems 47–55, dealing mainly with areas of triangles and the area of a circle inscribed in a square. Supposedly found near the Ramesseum in Western Thebes; Fifteenth Dynasty, circa 1550 BCE. BRITISH MUSEUM, LONDON

must be found, given the diameter of the base and the height. (In this and other transcriptions presented below, the direction of the hieratic is reversed so as to read from left to right, and fractions are marked by a bar over the denominator, replacing dots in the hieratic. Since only unit fractions were written, the numerator is omitted. The exception is $\frac{2}{3}$, which had its own sign, and is conventionally transcribed as a three with two bars over it: $\overline{\overline{3}}$.) Thus:

1	8	1	64	$\overline{10}$	96
2	16	/10	640	$\overline{20}$	48
4	32	$\overline{2}$	320		
/8	64	Total:	960		

The sums show that the square of 8 is 64, 10 times this is 640, adding $\frac{1}{2}$ times 640 gives 960, and a twentieth of 960 is 48. In the three sums, the left-hand columns consist of intermediate and final multipliers, and the right-hand columns contain the multiplicands and the intermediate and final products. In the third sum

the first step (1 960) has been omitted, so that the working is understood to pick up from the total of the second sum. Ticks (the diagonal lines or slashes in the transcriptions) against certain multipliers indicate crucial stages in the calculation. They are not applied to the intermediate doublings used in the first sum.

The simplest form of multiplication used by the Egyptians consisted, as in RMP 41, of repeated doublings or halvings or of increasing or decreasing by one (or more) orders of magnitude—that is to say, multiplying by tens or tenths. Usually there would be more than one possible working. Consider, for example, 47×33 :

(A)		(B)	
/1	47	/1	47
2	94	/2	94
4	188	/10	470
8	376	/20	940
16	752		
/32	1504		
Total:	33 1551	Total:	33 1551

Elite Culture and Change

Complex technical and scientific knowledge forms part of the broader body of culture transmitted by any civilization. Among the inner elite groups of the ancient Near East, technical progress and improvement, as well as large-scale management of people and social organization, on which society relies to maintain its culture, were seldom matters of prestige. "Progress" in the modern sense was generally not recorded and must be deduced independently from artifacts or texts. In Egypt, ideas of what we might see as progress and change were expressed in texts during only a few brief periods. Awareness of these phenomena is, however, evident in visual art from all periods including some of the earliest. For such ideas to be formulated, some sense is required of a continuing tradition and of a return to its roots or of a deliberate departure from it. These variations, which are often almost imperceptible to the outsider, are part of the way in which societies necessarily use their past to construct their present. Perceptions of this sort are essential to change in art and evident in other domains such as language; but they are difficult to identify in the subject matter of texts. Exact sciences were situated in this cultural context and did not have the prominence they have enjoyed in the West.

Many Egyptians stated in their biographies that they had surpassed their predecessors' achievements, and a formula of the late Old Kingdom and First Intermediate Period implies that some had checked on this: "I could not find that any (holder of my office) had done this before." The Middle Kingdom *Instruction for King Merikare* exhorts its putative royal reader to emulate or surpass what his forebears had achieved. But such statements can seldom be taken literally: they belong more to the rhetoric of public display. As rhetoric, they offer an alternative to the style of self-praise summed up in the biography of the Middle Kingdom official Wepwawetaa, who mentioned hardly any actions distinctive of himself but emphasized very strongly his descent from an ancient family of holders of similar office. Members of the elite who placed themselves under the patronage of the king proclaimed that they had risen through their own abilities, and hence could appear relatively innovative, while officials who were rather more self-sufficient looked to the legitimation of lineage and so may seem conservative. The reality could have been almost the opposite.

More distinctive are the small number of cases where people set their deeds in a continuum from past through present to future, or extolled a specific and unusual achievement that appears to carry credi-

bility. Several such texts date to the early Eighteenth Dynasty. In one, Ineni, who built the tomb of Thutmose I in the Valley of the Kings, stated "I was not taught by an old man; in future years I will be praised for my ability by those who will surpass(?) what I did." The biography of his contemporary Amenemhat describes how he devised a method for measuring time, while in the next generation Senenmut, the leading personality of the reign of Queen Hatshepsut, claimed—it seems accurately—that he had invented a new hieroglyph, one of whose properties was to celebrate his royal patroness.

These cases contrast with innovations around the time of Akhenaten and slightly later. The reigns of Akhenaten's predecessor Amenhotep III and of his successors saw major changes in the planning of capital cities, in art, in solar religion, and in language. The last of these led to the replacement of the more and more loosely used Classical Egyptian language with Late Egyptian, a form nearer to the spoken tongue of the day, in everyday writing; official inscriptions moved in the same direction. Yet, despite these clear innovations, the orientation of the times was conservative, as is to be expected particularly after the episode of Akhenaten. Thus, in the early Eighteenth Dynasty, a time we see as characterized by political advance and a mixture of cultural conservatism and advance, some members of the elite presented themselves as the initiators of forward-looking changes. More than a century later, significant cultural changes were introduced in the name of conservatism, and in the aftermath of Akhenaten even as reaction.

Comparable tensions can be seen in the cultural revival of the eighth century BCE and later, which is generally characterized as Late Period archaism. Language was again important, with the emergence of Demotic, a new written form closer to spoken language. Demotic was confined to cursive writing, and initially perhaps to nonliterary uses. It coexisted with Classical Egyptian and Late Egyptian, both of which were written in the older cursive script, hieratic. More generally, the Late Period saw considerable innovation presented in the guise of revival, while the country was gradually transformed as Egypt became integrated into the East Mediterranean world. These developments continued into Roman times.

The richest manifestation of "progress" was probably in temples of the Greco-Roman period. There, the hieroglyphic script was extended with vast numbers of new signs and sign values. The elaborated form was used both in captions to countless reliefs of king and gods and in long texts. The temples created, en-

acted, and celebrated a sacred world. Each temple strove to surpass its predecessors in fullness of decoration and inscription.

The specialized knowledge recorded in the form of temples and in hieroglyphs and religious concepts deeply impressed the civilizations of classical antiquity and contributed to Egypt's image as the source of ancient and secret wisdom—an image that is indica-

tive of what mattered to elites both within and outside native Egyptian society. The Egyptians did not discard old knowledge. Instead, they saw progress as enhancing and deepening their heritage. As late as the second century CE, they continued to advance their sacred science. The broader context of that science included a continuing tradition in such areas as mathematics.

JOHN BAINES

In method A, the multiplier 33 is partitioned into $1 + 32$, numbers that are taken from the series obtained by repeated doubling of 1. Any whole number can be partitioned in this way. In method B, 33 is partitioned into $1 + 2 + 10 + 20$. Two steps are saved in the calculation, but a longer addition has to be performed.

Multiplication of a fraction by a whole number or of a whole number by a fraction presented slightly more of a problem. Consider, for example, $\frac{1}{33} \times 47$ or $\frac{1}{47} \times 33$. In each case, a result could be obtained by repeated doubling of the fraction, since Papyrus Rhind contains a table for expressing doubled fractions with odd denominators as the sum of unit fractions, but the process would be exceedingly laborious. Instead, a sum such as $\frac{33}{47}$ was performed in a special way as a division. The instruction would be given to "treat 33 so as to obtain 47," and the sum would be written out in the following manner:

$\frac{1}{33}$	33
$\frac{1}{3}$	11
$\frac{1}{11}$	3
Total: $1 + \frac{1}{3} + \frac{1}{11}$	47

Clearly, this is a division sum $47 \div 33$ turned into a multiplication, so that the divisor 33 becomes the multiplicand and the multipliers 1, $\frac{1}{3}$, and $\frac{1}{11}$ add up to the quotient. The choice of multipliers was easy, because the multiplicand has factors. The calculation becomes more difficult when it is required to "treat 47 so as to obtain 33," since 47 is a prime number. It would be usual in such a case for the Egyptians to try either $\frac{1}{3}$ or $\frac{1}{2}$ as the first multiplier. In each case,

the procedure is facilitated if the multiplicand 47 is partitioned into $45 + 2$, and if the shortfall after each multiplication step is noted mentally as a guide to the next multiplier that should be introduced. Two results for $33 \div 47$ obtained in this way are $\frac{1}{3} + \frac{1}{30} + \frac{1}{470}$ and $\frac{1}{2} + \frac{1}{5} + \frac{1}{470}$. They are identical, since $\frac{1}{3} + \frac{1}{30} = \frac{1}{2} + \frac{1}{5}$.

Next to consider is the addition and subtraction of fractions. This was achieved much as today, by taking a common multiple for the denominators. An example is provided by Papyrus Rhind 7, where it is required to multiply $\frac{1}{4} + \frac{1}{28}$ by $1 + \frac{1}{2} + \frac{1}{4}$. The multiplication leads to a string of fractions, $\frac{1}{4} + \frac{1}{28}$, $\frac{1}{8} + \frac{1}{56}$, and $\frac{1}{16} + \frac{1}{112}$, that must be added. The scribe takes 28 as a common multiple and applies it as a multiplier to the fractions to obtain $7 + 1$, $(3 + \frac{1}{2}) + \frac{1}{2}$, and $(1 + \frac{1}{2} + \frac{1}{4}) + \frac{1}{4}$, which sum to 14. It follows that the sum of the fractions is $14 \div 28$ or $\frac{1}{2}$.

Papyrus Rhind 7 is in a sense an artificial problem, contrived to give the apprentice practice in handling fractions, for the instructor would have known very well that $\frac{1}{4} + \frac{1}{28}$ is equal to twice $\frac{1}{7}$ and that $1 + \frac{1}{2} + \frac{1}{4}$ is a quarter of 7, so that the answer to the multiplication has to be twice $\frac{1}{4}$, or $\frac{1}{2}$. It has, however, the potentially useful corollary that the seven-term series $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{28} + \frac{1}{56} + \frac{1}{112}$ sums to 1. Completing a fractional series so that it sums to 1 played, as we shall see, an important part in Egyptian arithmetic, and Problems 21–23 in Papyrus Rhind are concerned with just this task. It is probable, although no such list survives, that tables of fractional series summing to 1 were available for reference. Such a series could easily be generated by selecting a number, partitioning it into factors, and dividing by that number. For in-

stance, if the chosen number was 36, then we have:

$$36 = 18 + 9 + 4 + 3 + 2$$

$$1 = \frac{1}{2} + \frac{1}{4} + \frac{1}{9} + \frac{1}{12} + \frac{1}{18}.$$

Doubling of Unit Fractions One great achievement of Egyptian arithmetic was the table, found in Papyrus Rhind, for doubling odd-numbered unit fractions from $\frac{1}{3}$ to $\frac{1}{101}$. This was necessary for many multiplications involving fractions carried out by successive doubling. The rule was that a doubled fraction should be equated to the sum of not more than four unit fractions, all different and with fractional numbers (denominators) less than 1,000. Subsequent calculations would be facilitated if the fractional numbers were even and not too large.

There has been much debate down the years among Egyptologists and mathematicians alike as to how the Egyptians obtained their values for doubled odd-numbered fractions ($2\bar{n}$). For the most part, they can be gotten directly from division sums in which n is "treated so as to obtain 2," and working included in the Papyrus Rhind for values of n less than 31 indicates that this was done. Here is the calculation when $n = 17$:

$\begin{array}{rcl} \frac{1}{17} & & \\ \frac{1}{3} & 11 + \frac{1}{3} & \\ \frac{1}{3} & 5 + \frac{1}{3} & \\ \frac{1}{6} & 2 + \frac{1}{2} + \frac{1}{3} & \\ \frac{1}{12} & 1 + \frac{1}{4} + \frac{1}{6} & \\ \text{Remainder: } & \frac{1}{3} + \frac{1}{4} & \end{array}$	$\begin{array}{rcl} \frac{1}{17} & & \\ 2 & 34 & \\ /3 & 51 & \frac{1}{3} \text{ [written in red]} \\ /4 & 68 & \frac{1}{4} \text{ [written in red]} \\ \text{Remainder: } & \frac{1}{3} + \frac{1}{4} & \end{array}$
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The calculation on the left shows that one-twelfth of 17 is equal to $1 + \frac{1}{4} + \frac{1}{6}$ and that a further $\frac{1}{3} + \frac{1}{4}$ is required to sum to 2. In other words, the 2 of the doubling process can be dissected into two portions, $(1 + \frac{1}{4} + \frac{1}{6})$ and $(\frac{1}{3} + \frac{1}{4})$. The first portion divided by 17 yields $\frac{1}{12}$. The calculation on the right is intended to show that the $\frac{1}{3}$ in the second portion of the dissection of 2 when divided by 17 yields $\frac{51}{17}$ and that the $\frac{1}{4}$ yields $\frac{68}{17}$. For convenience, the sum is done with whole numbers, and a remainder is appended, written in red, to turn the results into fractions. The final answer is this:

$$\frac{17}{17} \times 2 = \frac{12}{17} + \frac{51}{17} + \frac{68}{17}$$

It will be noticed that in the left-hand calculation, 17 is "treated" by being multiplied initially by fractions obtained by successively halving $\frac{1}{3}$ until a result is obtained that is less than 2 but greater than 1. If we exclude from consideration for the moment values of n that are multiples of 3, 5, and 7, we find the same procedure followed for all values of n less than 31, except when $n = 13$. This is no doubt because multiplying n by members of the $\frac{1}{3}, \frac{1}{3}, \frac{1}{6}, \dots$ series gives the fewest number of terms or the smallest fractional numbers in the remainder. When $n = 13$, however, the best result is obtained by progressive halving of n , thus:

$\begin{array}{rcl} \frac{1}{13} & & \\ \frac{1}{2} & 6 + \frac{1}{2} & \\ \frac{1}{4} & 3 + \frac{1}{4} & \\ \frac{1}{8} & 1 + \frac{1}{2} + \frac{1}{8} & \\ \text{Remainder: } & \frac{1}{4} + \frac{1}{8} & \\ \text{Thus } & \frac{13}{13} \times 2 = \frac{8}{13} + \frac{52}{13} + \frac{104}{13} & \end{array}$	$\begin{array}{rcl} \frac{1}{13} & & \\ 2 & 26 & \\ /4 & 52 & (\frac{1}{4}) \\ /8 & 104 & (\frac{1}{8}) \end{array}$
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In this case, the 2 of the doubling process has been dissected into $(1 + \frac{1}{2} + \frac{1}{8})$ and $(\frac{1}{4} + \frac{1}{8})$. If the $\frac{1}{3}, \frac{1}{3}, \frac{1}{6}, \dots$ series had been used in the calculation, the value for $\frac{13}{13} \times 2$ would have been $\frac{12}{13} + \frac{26}{13} + \frac{39}{13} + \frac{156}{13}$, giving an extra term and an odd fractional number.

When n is a multiple of 3, all the Papyrus Rhind values for $2\bar{n}$ conform to a single pattern. They consist of two terms, the first of which is obtainable by taking two-thirds of n and turning it into a fraction, and the second, by doubling n and turning that into a fraction. Here is the procedure when $n = 99$:

$$\begin{array}{l} 99 \times \frac{1}{3} = 66 \\ 99 \times 2 = 198 \\ \frac{99}{99} \times 2 = \frac{66}{99} + \frac{198}{99} \end{array}$$

The method depends on the knowledge that $\frac{1}{3}$ is the reciprocal of $1 + \frac{1}{2}$. The 2 of the doubling process is partitioned into $(1 + \frac{1}{2}) + \frac{1}{2}$, and we can then write:

$$2\bar{n} = [(1 + \frac{1}{2}) + \frac{1}{2}]\bar{n} = (\frac{2}{3}\bar{n}) + \bar{n}.$$

The Egyptians were acquainted with reciprocal relationships and used them for calculation, as in Papyrus Rhind 9, 63, 67, and 71. They were

obtained by dividing 1 by one member of the reciprocal pair to get the other.

An approach similar to the above will yield some, though not all, of the values for $2\bar{n}$ used in Papyrus Rhind when n is a multiple of 5 but not of 3 and when it is a multiple of 7 but not of 3 or 5. In the former case, the first term can be obtained by taking one-fifth of n , trebling, and expressing the result as a fraction, and the second term can be obtained by trebling n and expressing it as a fraction. In the second case, the first term can be obtained by taking one-seventh of n , quadrupling, and expressing the result as a fraction, and the second term, by quadrupling n and expressing it as a fraction. In the first case, the 2 of the doubling process is split into $(1 + \frac{1}{3}) + \frac{1}{3}$ and in the second case into $(1 + \frac{1}{2} + \frac{1}{4}) + \frac{1}{4}$.

There is an alternative method for getting values for $2\bar{n}$ contained in a Roman demotic text that, although late, will give the expressions used in Papyrus Rhind when $n = 35$ and $n = 91$. In each case, n has two prime factors greater than unity. These factors are multiplied by half their sum, and the results are turned into fractions to give $2\bar{n}$. The procedure for $n = 91$ can be set out as follows:

$$\begin{aligned} 91 &= 7 \times 13 \\ 7 + 13 &= 20 \\ \frac{1}{2} \times 20 &= 10 \\ 7 \times 10 &= 70, 13 \times 10 = 130 \\ 91 \times 2 &= \frac{70}{10} + \frac{130}{10} \end{aligned}$$

The same method used when $n = 95$ (5×19) gives $95 \times 2 = \frac{60}{10} + \frac{228}{10}$, a simpler result than Papyrus Rhind's value of $\frac{60}{10} + \frac{380}{10} + \frac{570}{10}$.

Papyrus Rhind does not give full working in the form of a division sum for $2\bar{n}$ when n is greater than 29. Nevertheless it does seem that in many instances, an effort has been made to find the best expressions using the criteria named above. If this were really carried out by the division method, the many trials and errors required to select the appropriate multipliers would have been excessively tedious, and it is tempting to suppose that some shortcut may have been found. The Egyptians had a sharp eye for pattern, as is clear from their art and hieroglyphic script, and this may have extended to their mathematics as well. They may have

noticed that the denominator of the first fraction in the expression for $2\bar{n}$ is a number greater than half n with several factors. Rather than go through the whole business of division, they may have begun by choosing such a number, finding the amount by which it is less than n , partitioning this difference into factors of the chosen number, and then dividing by the chosen number to obtain a series of fractions. These fractions can be "completed to 1" by more fractions that, if the procedure has been successful, will not exceed four in number and that will have small denominators. These "completing" fractions are divided by n and preceded by the reciprocal of the chosen number to give $2\bar{n}$.

The method sounds complicated, but in practice it is not so. It merely requires a knowledge of fractional series that sum to 1—a knowledge the Egyptians had. An example will illustrate the method. When $n = 67$, a chosen number of 40 will give a difference of 27 to be partitioned. Taking $27 = 20 + 5 + 2$ and dividing by 40 gives the fractional series $\frac{2}{40} + \frac{5}{40} + \frac{2}{40}$. This series is completed to 1 by $\frac{5}{40} + \frac{8}{40}$. Dividing by n gives $\frac{335}{67 \times 40} + \frac{536}{67 \times 40}$, so that:

$$\frac{67}{40} \times 2 = \frac{335}{40} + \frac{536}{40}$$

The method, applied in this way, gives just the information written down in the Papyrus Rhind table, namely that $\frac{1}{40}$ of 67 is $1 + \frac{2}{40} + \frac{5}{40} + \frac{20}{40}$, $\frac{1}{335}$ of it is $\frac{5}{40}$, and $\frac{1}{536}$ of it is $\frac{8}{40}$.

An interesting special case occurs when $n = 101$, the last entry in the Papyrus Rhind table. The Papyrus Rhind value is obtained if the "chosen number" is taken to be n . There are then no fractions to be subtracted from 1, so instead we can write $1 = \frac{2}{101} + \frac{3}{101} + \frac{6}{101}$. Dividing these fractions by n and preceding them by $\frac{1}{n}$ gives the result:

$$\frac{101}{101} \times 2 = \frac{101}{101} + \frac{202}{101} + \frac{303}{101} + \frac{606}{101}$$

Variant Values It has already been emphasized that the Papyrus Rhind scribe chose his $2\bar{n}$ values from a number of possible alternatives. One such alternative, when $n = 7$, has come down to us on an ostrakon found in the tomb of Senenmut (Theban Tomb 71). It is unlikely that this variant was used in practice, since it is obviously inferior to the Papyrus Rhind version. It

was probably a “doodle” performed by a scribal apprentice trying out the use of the $\overline{3}$, $\overline{3}$, $\overline{6}$, . . . series in place of $\overline{2}$, $\overline{4}$ in the first part of a division sum, as follows:

$$\begin{array}{r} \overline{1} \quad 7 = \overline{6} + 1 \\ \overline{3} \quad 4 + \overline{3} \\ \overline{3} \quad 2 + \overline{3} \\ / \overline{6} \quad 1 + 6 \\ \text{Remainder: } \overline{2} + \overline{3} \\ / 2 \quad 14 (\overline{2}) \\ / 3 \quad 21 (\overline{3}) \\ \text{giving } 7 \times 2 = \overline{6} + \overline{14} + \overline{21} \end{array}$$

The Papyrus Rhind version is obtained in this manner:

$$\begin{array}{r} 1 \quad 7 = 6 + 1 \\ \overline{2} \quad 3 + \overline{2} \\ / \overline{4} \quad 1 + \overline{2} + \overline{4} \\ \text{Remainder: } \overline{4} \\ 2 \quad 14 \\ / 4 \quad 28 (\overline{4}) \\ \text{giving } 7 \times 2 = \overline{4} + \overline{28} \end{array}$$

One would like to know whether the Papyrus Rhind values for $2\overline{n}$ were canonical or whether some variant expressions were in common use. Although the first alternative is likely in view of the care that seems to have been taken in selection, G. J. Toomer cites $\overline{7} + \overline{91}$ as an alternative for $\overline{13} \times 2$ in a later text. His claim, however, that this is “better” than the Papyrus Rhind value of $\overline{8} + \overline{52} + \overline{104}$ is dubious because, although it has one fewer term, all the denominators are odd. The reason for preferring even denominators is to facilitate doubling in subsequent calculations. When $\overline{7} + \overline{91}$ is doubled, it becomes $\overline{4} + \overline{28} + \overline{70} + \overline{130}$, but the Papyrus Rhind value yields $\overline{4} + \overline{26} + \overline{52}$, which is obviously superior.

The expression $\overline{7} + \overline{91}$ for $\overline{13} \times 2$ can be obtained with the method given above for $\overline{35} \times 2$ and $\overline{91} \times 2$, by considering the factors of 13 to be 1 and itself. Half the sum of these factors is 7. Multiplying the factors by this number and turning the results into fractions gives $\overline{7} + \overline{91}$. The same procedure can be used to double any odd-numbered fraction; for instance, $\overline{17} \times 2$ becomes $\overline{9} + \overline{153}$, but this too must be regarded as inferior to the Papyrus Rhind value given above. The rationale of the method is revealed by writ-

ing $n = 2p + 1$ and taking 1 and $(2p + 1)$ as the factors of n . Half the sum of the factors is $(p + 1)$. Multiplying 1 and $(2p + 1)$ by $(p + 1)$ and turning the results into fractions gives $1/(p + 1) + 1/(p + 1)(2p + 1)$, which, when simplified, becomes $2/(2p + 1)$ or $2\overline{n}$.

It is not only the values for $2\overline{n}$ that have possible variants. Papyrus Rhind 6 sets the problem of how to divide 9 loaves between 10 men and gives the answer that each man is to receive $\overline{3} + \overline{5} + \overline{30}$ of a loaf. The result is checked by multiplying by 10, but there is no working to show how the solution was obtained. William Kelly Simpson's section G of the Middle Kingdom Papyrus Reisner gives a different answer to the same problem of how to divide 9 by 10, in the context of enlistees for excavating foundations for a temple. The differences in working that lead to two disparate results are a matter of rearranging fractions. In each case, 9 has to be split into 5 and 4, so that $\overline{2} \times 9 = 2 + 2 + \overline{2}$. Further multiplication by $\overline{5}$ gives:

$$\overline{10} \times 9 = (\overline{3} + \overline{15}) + (\overline{3} + \overline{15}) + \overline{10}$$

For Papyrus Rhind, regrouping of the factors and use of the value for $\overline{15} \times 2$ obtained from the table of doubled fractions gives:

$$\begin{aligned} \overline{10} \times 9 &= \overline{3} + \overline{10} + (\overline{10} + \overline{30}) \\ &= \overline{3} + \overline{5} + \overline{30} \end{aligned}$$

For the Reisner papyrus, regrouping of the factors gives:

$$\begin{aligned} \overline{10} \times 9 &= \overline{3} + (\overline{3} + \overline{10} + \overline{15}) + \overline{15} \\ &= \overline{2} + \overline{3} + \overline{15} \end{aligned}$$

The final step requires the knowledge that $\overline{3} + \overline{10} + \overline{15} = \overline{2}$. It cannot be said that either of these possible values for $\overline{10} \times 9$ is markedly better than the other. If doubling was required, for instance, to discover how to divide 9 loaves among $\overline{5}$ men, the answer in each case would be $1 + \overline{3} + \overline{10} + \overline{30}$.

Multiplying Fractions by Other Whole Numbers At this point, it is pertinent to consider how the Papyrus Rhind $2\overline{n}$ table might have been used to facilitate the multiplication of odd-numbered fractions by numbers greater than 2.

Morris Kline asserts that the Papyrus Rhind copyist obtained a value for $\overline{29} \times 7$ by splitting 7 into $2 + 2 + 2 + 1$, converting each $\overline{29} \times 2$ into a sum of unit fractions, adding and reconvertng to get an expression for $\overline{29} \times 7$ in terms of unit fractions. In fact, nowhere in Papyrus Rhind is there a calculation for $\overline{29} \times 7$, and if there had been, it is unlikely that it would have been done in the cumbersome manner that Kline suggests. All that the scribe would have had to do was take from the $n = 29$ entry in the Papyrus Rhind $2\bar{n}$ table the value given for $\overline{24} \times 29$ and then apply multipliers until he could obtain a combined product just short of 7. The sum would go as follows:

$$\begin{array}{rcl} & 1 & 29 (= 24 + 4 + 1) \\ \overline{24} & & 1 + \overline{6} + \overline{24} \\ \overline{12} & & 2 + \overline{3} + \overline{12} \\ \overline{6} & & 4 + \overline{3} + \overline{6} \\ \text{Total: } \overline{6} + \overline{24} & & 6 + \overline{24} \end{array}$$

Since $\overline{2} + \overline{3} + \overline{8} + \overline{24}$ completes to 1, the shortfall is $\overline{2} + \overline{3} + \overline{8}$. By taking the identity $7 = (\overline{6} + \overline{24}) \times 29 + (\overline{2} + \overline{3} + \overline{8})$ and dividing through by 29, the scribe would have obtained the result:

$$\overline{29} \times 7 = \overline{6} + \overline{24} + \overline{58} + \overline{87} + \overline{232}$$

The above expression for $\overline{29} \times 7$ is one of two possibilities mentioned by Kline, the other being $\overline{5} + \overline{29} + \overline{145}$. This second alternative is unlikely to have been preferred by the Egyptians. Although it contains two fewer terms, all of the terms are odd-numbered, and this would have resulted in a great proliferation of fractions if the expression required doubling in subsequent calculations. The expression can be obtained by the division of 7 by 29 if, in the first stages of the sum, the multiplier of 29 ($= 25 + 2 + 2$) is $\overline{5}$, but completion has to be to 2 and not to 1. The operation $\overline{5} \times 29$ yields $5 + \overline{3} + \overline{10} + \overline{30}$, but $\overline{3} + \overline{5} + \overline{10} + \overline{30}$ completes to 1, so that the shortfall from 2 is $1 + \overline{5}$. It follows that $\overline{29} \times 7 = \overline{5} + \overline{29}(1 + \overline{5})$.

Using the first fraction in the Papyrus Rhind value for $2\bar{n}$ when $n = 47$ as a first multiplier will lead to an expression for $\overline{47} \times 33$ given earlier in this article. The sum can be written out as follows:

$$\begin{array}{rcl} & 1 & 47 (= 30 + 15 + 2) \\ & \overline{30} & 1 + \overline{2} + \overline{15} \\ & \overline{3} & 15 + \overline{3} \\ & \overline{3} & 31 + \overline{3} \\ \text{Total: } \overline{3} + \overline{30} & & 32 + \overline{2} + \overline{3} + \overline{15} \\ & & \text{Remainder: } \overline{10} \\ \text{giving } \overline{47} \times 33 = \overline{3} + \overline{30} + \overline{47} \times \overline{10} \\ & & = \overline{3} + \overline{30} + \overline{470} \end{array}$$

It must be said, however, that this procedure will not always give the best results when fractions are multiplied by whole numbers. In the case of $\overline{47} \times 6$, for instance, it is much better to perform a division sum using members of the $\overline{2}, \overline{4}, \overline{8}, \dots$ series as multipliers. This will reveal that $\overline{8} \times 47 = 5 + \overline{2} + \overline{4} + \overline{8}$, falling short of 6 by $\overline{8}$. It follows that $\overline{47} \times 6 = \overline{8} + (\overline{47} \times \overline{8}) = \overline{8} + \overline{376}$.

An example of the multiplication of a fraction by a whole number greater than 2 will now be given to show how unit fractions could have helped to achieve an approximation. Suppose it were required to find an expression for $\overline{97} \times 7$. The entry for $n = 97$ in the Papyrus Rhind $2\bar{n}$ table is equivalent to $\overline{97} \times 2 = \overline{56} + \overline{97}(\overline{7} + \overline{8})$ and states that $\overline{56} \times 97 = 1 + \overline{2} + \overline{8} + \overline{14} + \overline{28}$. It is possible, therefore, to write the following sum:

$$\begin{array}{rcl} & 1 & 97 \\ \overline{56} & & 1 + \overline{2} + \overline{8} + \overline{14} + \overline{28} \\ \overline{28} & & 3 + \overline{4} + \overline{7} + \overline{14} \\ \overline{14} & & 6 + \overline{2} + \overline{4} + \overline{7} + \overline{28} \end{array}$$

The fractional series $\overline{2} + \overline{4} + \overline{7} + \overline{14} + \overline{28}$ completes to 1, so that in the value obtained for $\overline{14} \times 97$ there is a shortfall from 7 of $\overline{14}$. It follows that:

$$\begin{aligned} \overline{97} \times 7 &= \overline{14} + (\overline{97} \times \overline{14}) \\ &= \overline{14} + \overline{1358} \end{aligned}$$

In practice, $\overline{14}$ could serve as an acceptable approximation for $\overline{97} \times 7$. The use of unit fractions shows how close this approximation actually is.

Advantages of Unit Fractions Examples have been given of some of the ways in which unit fractions could be manipulated. The time has now come to consider the validity of modern allegations that such fractions were an impedi-

ment to the development of exact science. It is difficult to see that any of the mathematical achievements of the Babylonians resulting from their ostensibly superior methodology would have been unachievable by the Egyptians. For instance, it is easy to devise a “granary problem” involving a quadratic equation with rational roots and to show that it can be solved by a method similar to that used by the Babylonians, unimpeded by unit fractions. Such a problem might run, “A rectangular granary has a volume of $3\frac{1}{4}$ cubic cubits. The length is 7 cubits, and this length exceeds the breadth by 7 times the height. Find the breadth and the height.” The fact that no such problem is extant in the few surviving Egyptian documents is no proof that it would not have been within the competence and repertory of Egyptian scribes.

The one disadvantage to unit fractions for which there is clear evidence is the difficulty that sometimes arises in simplifying a fractional series with large denominators. Three instances can be cited from Papyrus Rhind. It has already been indicated that in the $2\bar{n}$ table, the last two terms, $\bar{380} + \bar{570}$, in the expression for $\bar{95} \times 2$ can be reduced to $\bar{228}$. In Papyrus Rhind 32 the solution of the linear equation $(1 + \bar{3} + \bar{4})x = 2$ is given as $1 + \bar{6} + \bar{12} + \bar{114} + \bar{228}$. But $\bar{6} + \bar{12} = \bar{4}$, and $\bar{114} + \bar{228} = \bar{19}(\bar{6} + \bar{12}) = \bar{19} \times \bar{4} = \bar{76}$, so that the answer should have been given as $1 + \bar{4} + \bar{76}$. Papyrus Rhind 47 is concerned with volumes of grain and consists of one-tenth gradations of 100 great *hekat*, which in modern terms is about 2 cubic meters, or 53 bushels. The amounts are given in the so-called Horus-eye fractions of a *hekat*, that is, fractions belonging to the series $\bar{2}, \bar{4}, \bar{8}, \dots, \bar{64}$ and in *ro*, 1 *ro* being equal to a tenth of the $\bar{32}$ fraction of a *hekat*, or about 15 cubic centimeters (about 1 cubic inch). One-seventieth of 100 great *hekat* is given as being equal to $1 + \bar{4} + \bar{8} + \bar{32} + \bar{64}$ great *hekat* + $2 + \bar{14} + \bar{21} + \bar{42}$ *ro*. But $\bar{14} + \bar{21} + \bar{42} = \bar{7}(\bar{2} + \bar{3} + \bar{6}) = \bar{7}$, so the additional number of *ro* should have been $2 + \bar{7}$.

To redress the disadvantage, there are occasions when unit fractions can prove helpful or lend added clarity. We know little about the Egyptian employment of approximations, but we do know that they were used; for instance, Papyrus Reisner section G has the approximation 4 for $\bar{10} \times 39$, which is actually $3 +$

$\bar{2} + \bar{3} + \bar{15}$. If the Egyptians in early times had numerical values for irrational numbers such as square roots, and we do not know whether they did or not, those values would have had to be approximations. Suppose that an estimation of the square root of 2 was obtained by measuring the length, in cubits and fractions of a cubit, of the diagonal of a square whose side was 1 cubit, either a royal cubit of 7 palms or a small cubit of 6 palms. Using the royal cubit, the length might have been found to be 1 cubit and 3 palms, equal to a “double *remen*,” the *remen* being the Egyptian linear measurement equal to 5 palms. This gives $1 + \bar{4} + \bar{7} + \bar{28}$ as an approximation for the square root of 2. Using the small cubit of 6 palms as the unit, a measured length of 1 cubit and $2\frac{1}{2}$ palms for the diagonal would yield the much more elegant approximation $1 + \bar{3} + \bar{12}$. Squaring $1 + \bar{3} + \bar{12}$ gives rise to the series $1 + \bar{3} + \bar{6} + \bar{9} + \bar{18} + \bar{144}$. But the scribe would recognize that $\bar{3} + \bar{6} + \bar{9} + \bar{18}$ sums to 1 and so would know that the expression $1 + \bar{3} + \bar{12}$ when squared differed from 2 by only $\bar{144}$.

Another approximation for the square root of 2 involving the *remen* can be obtained by equating the length of the diagonal of a square whose side is 1 *remen* to a royal cubit. Whether the Egyptians did this we do not know. If they did, then by expressing the lengths in palms and dividing by 5, they could have obtained an approximation for the square root of 2 equal to $1 + \bar{3} + \bar{15}$. This value is not as good as the one of $1 + \bar{3} + \bar{12}$ given above, since its square falls short of 2 by the relatively large fraction $\bar{25}$.

Geometry

The greatest recorded Egyptian achievement in plane geometry was a formula for the area of a circle that was the best in the pre-Hellenic world. As given in Papyrus Rhind 41–43, the area was obtained from the diameter by subtracting its ninth part and squaring the result. This procedure yields an equivalent for π of 3.16, instead of 3.1416, which is off by only 0.6 percent.

One may ask how the Egyptians arrived at this result. What made them think of squaring a circle by erecting the square on eight-ninths of the circle's diameter rather than on some other amount of it? It is reasonable to imagine that

they might have begun with a square, found its center by drawing diagonals, divided the sides of the square into quarters, then with the intersection of the diagonals as center, proceeded to draw a circle through the quarter points. Supposing the square to have had a side of 8 units, its area would be 64 square units. By Pythagoras's theorem, the length of the diameter of the circle will be equal to the square root of $8^2 + 4^2 = 80$, so that its radius will be equal to the square root of one-quarter of 80, that is 20 units. A circle with this radius has an area of 20π , or 62.832 square units. The shortfall is 1.168 square units, or 1.825 percent. It is possible that the Egyptians drew a circle in this manner and then, measuring its diameter, found it to be very nearly 9 units, since twice the square root of 20 is 8.944. If they assumed the circle to have an actual diameter of 9 units, subtracting a ninth part and squaring would give 64 square units, which is the area of the square.

Whether the Egyptians had an estimate for the ratio of the length of the circumference of a circle to its diameter, which defines π , before it appears in the demotic papyri is not known. They could easily have obtained one by measuring the circumference of a circle with a diameter of 1 royal cubit, in which case they would have found the circumference's length to be close to 3 royal cubits and a palm, giving the approximation $3\frac{1}{4}$, which is still in use today.

A subject that has been hotly debated is the extent of the Egyptians' knowledge of the properties of right-angled triangles, including the theorem attributed to Pythagoras. It seems almost certain that the triangle whose sides have the ratio 3:4:5 must have been known during the Old Kingdom, since it can be found in the proportions of the half-base, height, and apothem of the sides in the pyramid of Chephren (Khafre, Rekhaef) at Giza and in all the surviving pyramids of the Sixth Dynasty. "Half-base" is half the length of the side of the base; "apothem" is the name given to a line joining the apex of the triangle forming a face of the pyramid to the midpoint of its base. It is hypothesized that the adoption of these proportions would have facilitated the cutting of the casing stones. The 3:4:5 ratio can also be found in Problem 1 of Papyrus Berlin 6619 concerned with the areas of squares and, later (the third century BCE), in some slop-

ing pole problems contained in a demotic Cairo papyrus.

The numbers 3, 4, 5 are the simplest example of the so-called Pythagorean triple, in which the square of the largest number is equal to the sum of the squares of the other two. On the basis of a single cuneiform tablet, Plimpton 322, the Babylonians are credited with having discovered many such triples and with having found how to generate them from reciprocals. Whether the Egyptians knew of the generating method is unknown, but it is worth reiterating that they were very familiar with reciprocals, so that they could have obtained the 3, 4, 5 triple from the simplest reciprocal pair of all, namely 2 and $\bar{2}$, by rearranging fractions as follows:

$$\begin{aligned} 1 &= 2 \times \bar{2} = (1 + 1) \times (\bar{4} + \bar{4}) \\ &= [(1 + \bar{4}) + (1 - \bar{4})] \times [(1 + \bar{4}) - (1 - \bar{4})] \\ &= (1 + \bar{4})^2 - (1 - \bar{4})^2 \end{aligned}$$

Multiplying through by 4^2 gives:

$$4^2 = 5^2 - 3^2$$

The method, once discovered, could yield other triples, such as 5, 12, 13, simply by bringing into play different reciprocals. Alternatively, such triples could have been worked out from tables of squares.

The height of the Egyptian achievement in solid geometry that has come down to us is contained in a famous problem in the Moscow Mathematical Papyrus that correctly gives the formula for the volume of a truncated pyramid, or frustum. It is still not known how this formula was obtained. An algebraic method, which depends on producing the frustum by subtracting a smaller pyramid from a larger one, requires the knowledge that the heights of the two pyramids will be proportional to the width of their bases; it also depends on the ability to factorize the difference between two cubes. A dissection method, in which the frustum is broken up into a small pyramid, a skew square prism, and two triangular prisms, requires knowledge of the formulae for the volumes of these various solids. Curiously, there is no account of the Egyptians measuring the volume of a complete pyramid, although they must have been able to do this; after all, a pyramid is simply a frustum with zero

upper surface. This is a further example of how inadequate our sources are and of how far Papyrus Rhind is from being a complete compendium of Egyptian mathematical knowledge.

ARCHITECTURE

The essence of practical science is measurement, and there is no doubt that the Egyptians were capable of extraordinary precision in this, as is evidenced on a small scale in the design and execution of their furniture and on a large scale in their monumental architecture. Some surviving cubit rods are subdivided into sixteenths of a finger. Since the finger was a twenty-fourth of a small cubit of about 45 centimeters (18 inches), this implies a potential accuracy of nearly a millimeter. The divided cubit rods are funerary in nature, specifically intended for burial with the dead, but were surely based on rods that were actually in use. The precise length of different rods varies a little, but length presumably was standard for a particular project. Land measurement for monumental purposes was carried out with stretched ropes. It might be thought that the stretching would have led to error, but estimates of the base lengths of pyramids indicate that a round number of cubits was aimed at and that the error was surprisingly small. Measurement of land areas, often irregular quadrilaterals, for tax purposes probably did not aspire to great accuracy; it is likely that a rough-and-ready estimate that averaged the length of sides to save time was employed and that it favored the tax gatherer rather than the taxpayer.

The primary factors in the design of pyramids were the size of the square base, to be determined at the outset according to the space available, and the slope of the triangular faces, which was controlled as building proceeded. The height followed from these two. The slope was measured as the *seked*, which was the lateral displacement in palms for a drop of 7 palms, or 1 royal cubit. It was therefore the equivalent of the modern cotangent of the angle of inclination, measuring flatness rather than steepness; the greater the *seked*, the flatter the slope. The primitive *seked* for the faces of pyramids seems to

have been $5\frac{1}{2}$. This is the *seked* of the Great Pyramid at Giza and was probably that of the original outer casing of the first true pyramid, that of Maidum.

The most plausible explanation for the adoption of this *seked* is as follows. All true pyramids made of stone were constructed with an inner stepped core. Measurements indicate that the risers of the steps of the Maidum pyramid and of those of the even earlier step pyramid of Djoser at Saqqara had a *seked* of 2. Although the delapidation that has occurred at these monuments makes precise linear measurements difficult, it is probable that the height of the steps was intended to be twice the depth of their treads. Infilling of a stepped core with these proportions in order to create smooth faces would result in a *seked* of $2 + (\frac{1}{2} \times 7)$ or $5\frac{1}{2}$. Efforts by modern numerologists to find the irrational numbers π and ϕ (phi, a number associated with the so-called golden section) encapsulated in the Great Pyramid are misplaced; the apparent association is simply a by-product of the $5\frac{1}{2}$ *seked*. Other pyramids have different *sekeds*. For instance, the lower part of the Bent Pyramid at Dahshur has a *seked* of 5, and the upper part has a *seked* of $7\frac{1}{2}$. The pyramid of Chephren at Giza and all Sixth Dynasty pyramids have a *seked* of $5\frac{1}{4}$, giving the 3:4:5 proportions already mentioned.

Pyramid problems involving a $5\frac{1}{4}$ *seked* occur in Papyrus Rhind and are an indication that at least some of its contents probably reach back to the Old Kingdom, since this *seked* is not a feature of Middle Kingdom pyramids. Papyrus Rhind 57 runs in T. E. Peet's translation (with my insertions) as follows:

A pyramid 140 [cubits] in length of side, and 5 palms and a finger [$\frac{1}{4}$ palm] is its batter [*seked*]. What is the vertical height thereof?

You are to divide one cubit by the batter doubled, which amounts to $10\frac{1}{2}$. You are to reckon with [treat] $10\frac{1}{2}$ to find 7, for this is one cubit.

Reckon with $10\frac{1}{2}$: two-thirds of $10\frac{1}{2}$ is 7.

You are now to reckon with 140, for this is the length of the side:

Make two-thirds of 140, namely $93\frac{1}{3}$ [cubits]. This is vertical height thereof.

Remembering that the *seked* as a measure of slope is the lateral displacement in palms for a drop of 1 royal cubit equal to 7 palms, the reader

might like to visualize the problem in terms of two superimposed isosceles triangles sharing a common apex. The larger triangle represents a vertical section through the whole pyramid at right angles to two opposite faces, passing through the vertex; the smaller triangle has its base a royal cubit, or 7 palms, below the apex. Because the triangles are similar, the ratio of their heights to the lengths of their bases will be the same. Since the base of the pyramid is square, the length of the base of the larger triangle is 140 royal cubits. The length of the base of the smaller triangle is equal to twice the *seked* and is therefore $10\frac{1}{2}$ palms. Proportionally, the height of the large triangle divided by the length of its base, measured in the same units (cubits), is equal to the height of the small triangle divided by the length of its base, both measured in palms. The scribal procedure of doubling the *seked*, dividing 7 by the result, and then multiplying the width of the base of the pyramid by the fraction obtained is thus explained. The Egyptians often used proportionality to solve problems, and the above geometrical interpretation accounts for the scribe using twice the *seked* in his calculation, something that has puzzled some commentators.

CALENDARS AND ASTRONOMY

Almost as remarkable as their building was the ingenuity that the Egyptians showed in their calendar-making, which can perhaps be regarded as their most important and longest-lasting contribution to human social organization. Their earliest calendar was a lunar one. The year was divided into three agricultural seasons, the inundation period (*akhet*), the growing period (*peret*), and the low-water period and harvest (*shemu*), each consisting of four months. The onset of the Nile inundation occurred in the summer and was observed to coincide closely with a stellar event, the heliacal rising just before dawn of the brightest star in the sky after seventy days' invisibility. This was the Dog Star, Sothis (Sirius). In order to keep the lunar year in step with the Sothic year, an extra month was added every two or three years. Since twelve lunar months amount to approximately $354 =$

$12 \times 29\frac{1}{2}$ days, the extra month would need to consist of 29 or 30 days.

The fluctuations involved in this procedure proved to be administratively inconvenient, and in consequence, a fixed civil calendar was introduced. The year was still broken down into twelve months, but these now consisted of 30 days each, with 5 extra days added at the end to give the nearest approximation, as a whole number of days, to the length of the Sothic year. Although the discrepancy between the 365-day civil year and the $365\frac{1}{4}$ -day natural year must have become known, no attempt was made to obtain a correction by inserting leap years. The lunar calendar continued to be used for agricultural events, religious festivals, and tax gathering. Finally, a non-Sothic lunar year was devised that was linked to the civil year.

The twelve civil months were each divided into three "weeks" consisting of ten days. Ten days was the period during which the heliacal rising of Sothis and of other stars or groups of stars (such a group is known as a "decan") could be successively observed, so that the twelve months featured a total of thirty-six decans. At the time of the onset of the inundation, a succession of twelve decans could be seen to rise during the night, and this led to a subdivision of the night into twelve hours. Originally daylight was divided into ten hours with two twilight hours, one at dawn and one at dusk. Since daylight is longer in summer than in winter, hours had a variable and unequal length. The water clock, or clepsydra, consisting of a bowl with a hole in the bottom, was graduated on the inside so that the level of the water recorded the average duration of an hour for each month of the year. Finally, a twenty-four-hour day was adopted with equal hours.

The decans, five planets and sundry constellations of stars, are shown on star maps appearing on Middle Kingdom coffins and on the ceilings of some New Kingdom royal tombs and Greco-Roman period temples. In Ptolemaic times the zodiac was imported into Egypt from the Near East or Greece. It occurs, together with the Egyptian decans and constellations, on several astronomical ceilings in the temple of Hathor at Dendera. The most famous, showing a circular zodiac, is now in the Louvre in Paris and has been replaced on site by a replica. Since the star maps

do not form a recognizably accurate picture of the heavens, modern commentators find little of lasting value in Egyptian astronomy. It must be remembered, however, that Egyptian art is conceptual and symbolic, and does not aim to represent the world around it with precise accuracy.

Commentators also tend to discount the high regard in which Egyptian learning was held by Greek thinkers. Eudoxus, for instance, who in the fourth century BCE was the first to construct a mathematical system to explain the apparent movement of heavenly bodies, seems to have learned from the Egyptians. Diodorus Siculus, three centuries later, relates that Eudoxus had studied in Egypt with the priests. He claims the same for Oenopides, a fifth-century BCE astronomer, who is said to have discovered the obliquity of the ecliptic (that is, the apparent annual path of the sun). There is no reason why the Greek oral tradition, reported by Diodorus and later by Diogenes Laertius, should be dismissed out of hand.

CONCLUSIONS

Applications to Daily Life

Although there is a contrived element about some of the exercises contained in the mathematical papyri, they are in general clearly intended to provide solutions to practical problems, and many throw an interesting light on aspects of daily life, including the equal and unequal distribution of provisions (Papyrus Rhind 39–40, 63–66, 68), the valuation of commodities against precious metals (no. 62), the assessment of adulteration in items of food and drink made from grain (nos. 69–78), and various forms of farm accounting (nos. 67, 82–84). It may seem odd to calculate how nine loaves can be divided out among ten men (no. 6) to show that each man will get precisely two-thirds plus one-fifth plus one-thirtieth of a loaf, but surviving temple documents show that meticulous partitioning such as this did actually occur in accounting.

The unit of value derived from the weight of precious metals was the *shaty* (*šꜥtj*). A *deben* (just under three troy ounces [about 91 grams]) of gold was worth twelve *shaty*, and the same weight of silver was worth six *shaty*, according to Papyrus Rhind. Thus, gold was twice as valu-

able as silver, despite the local abundance of gold compared with silver, which had to be imported.

The unit of adulteration was the *pesu*, a term that also occurs in lists of offerings and in accounts. It measures lack of quality by indicating the number of loaves of bread or jugs of beer yielded by one *hekat* (just over one Imperial gallon, 10 U.S. pints or 4.5 liters) of flour or grain. In these problems the volume of flour was not distinguished from the volume of grain from which it was derived.

Papyrus Rhind 82–84 are of interest because they relate to the force-feeding of domestic animals, a common practice in ancient Egypt. The Old Kingdom mastaba of Ti at Saqqara contains reliefs of free-range ducks or geese being fed with grain and of cranes having food forcibly thrust down their throats. Papyrus Rhind 82 and 83 allow one to calculate how much extra nutriment was crammed into geese force-fed with flour made into bread, as compared with those feeding themselves naturally on grain. If one takes into account that, according to the rule of thumb provided, the bulk of grain is reduced by one-fifteenth in the grinding of flour, the amounts of feed given to each group of birds indicate that those being force-fed were made to swallow the equivalent of two and one-third times as much as the others.

The Sophistication of Egyptian Mathematics

The reader will have gathered that the main obstacle in assessing the Egyptian contribution to the exact sciences is the sparsity of the sources. Nevertheless, what we know of their mathematical ability tells us that they were not a numerologically backward people. They could, for instance, handle arithmetical and geometrical progressions (Papyrus Rhind 40, 64, 79), using methods similar to those employed today. Besides being adept at calculation, they give the impression of having had an interest in numbers for their own sake, applying to them the highly developed aesthetic sense evident in their writing and art. This may in part explain the attraction of unit fractions, which the Egyptians invented. It seems that when Egyptians sought the answer to a calculation, a deliberate choice was made not to repeat the same unit fraction;

to have repeated one would have been equivalent to using numerators greater than unity. Yet, such repetitions do occur in the course of calculation, so there is no reason to suppose that the Egyptians had a conceptual block in this respect. One should therefore be cautious in claiming that unit fractions were an impediment to mathematical advance. On the contrary, the mental agility fostered by the manipulation of them may have had just the opposite effect.

BIBLIOGRAPHY

Mathematics

Useful works include SYLVIA COUCHOUP, *Mathématiques égyptiennes: Recherches sur les connaissances mathématiques de l'Égypte pharaonique* (1993); OSWALD A. W. DILKE, *Mathematics and Measurement* (1987), chap. 1; J. M. GALÁN, "A Remark on Calculations of Area in the Rhind Mathematical Papyrus," *Göttinger Miszellen* 117–118 (1990); RICHARD J. GILLINGS, *Mathematics in the Time of the Pharaohs* (1972; 2nd ed. 1982), and "The Mathematics of Ancient Egypt," in *Dictionary of Scientific Biography*, vol. 15, suppl. 1, edited by C. C. GILLESPIE (1978); MORRIS KLINE, *Mathematical Thought from Ancient to Modern Times* (1972), chap. 2; B. LUMPKIN, "The Egyptians and Pythagorean Triples," *Historia Mathematica* 7 (1980); OTTO NEUGEBAUER, *The Exact Sciences in Antiquity* (1952; 2nd. ed. 1957), chap. 4; T. ERIC PEET, "Mathematics in Ancient Egypt," *Bulletin of the John Rylands Library* 15 (1931); WALTER-FRIEDRICH REINEKE, "Dezimalsystem," *Lexikon der Ägyptologie* 1 (1975), and "Mathematik," *Lexikon der Ägyptologie* 3 (1980); GAY ROBINS and CHARLES SHUTE, "The 14-to-11 Proportion in Egyptian Architecture," *Discussions in Egyptology* 16 (1990), and "Irrational Numbers and Pyramids," *Discussions in Egyptology* 18 (1990); ROBERT W. SLOLEY, "Science," in *The Legacy of Egypt*, edited by STEPHEN R. K. GLANVILLE (1942); G. J. TOOMER, "Mathematics and Astronomy," in *The Legacy of Egypt*, edited by JOHN R. HARRIS (2nd ed. 1971); and BARTEL L. VAN DER WAERDEN, *Geometry and Algebra in Ancient Civilizations* (1983), chap. 1.

THE RHIND MATHEMATICAL PAPYRUS

See ARNOLD B. CHACE, ed., *The Rhind Mathematical Papyrus*, 2 vols. (1927–1929); T. ERIC PEET, ed., *The Rhind Mathematical Papyrus, BM 10057 and 10058* (1923); and GAY ROBINS and CHARLES SHUTE, *The Rhind Mathematical Papyrus* (1987).

OTHER TEXTS

Texts other than the Rhind Mathematical Papyrus can be found in FRANCIS LL. GRIFFITH, *Hieratic Papyri from Kahun and Gurob* (1898), vol. 1, pp. 15–18, and vol. 2, pl. 8; RICHARD A. PARKER, *Demotic Mathematical Papyri* (1972); HANS SCHACK-SCHACKENBURG, "Der Berliner Papyrus 6619," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 38 (1900) and 40 (1902–1903); WILLIAM KELLY SIMPSON, *Papyrus Reisner I: The Records of a Building Project in the Reign of Sesostri I, Transcription and Commentary* (1963), *Papyrus Reisner II: Accounts of the Dockyard Workshop at This in the Reign of Sesostri I, Transcription and Commentary* (1965), *Papyrus Reisner III: The Records of a Building Project in the Early Twelfth Dynasty, Transcription and Commentary* (1969), and *Papyrus Reisner IV, Transcription and Commentary: Personnel Accounts of the Early Twelfth Dynasty* (1986); and W. W. STRUVE, "Mathematischer Papyrus des Staatlichen Museums der Schönen Künste in Moskau," *Quellen und Studien zur Geschichte der Mathematik*, Pt. A, no. 1 (1930).

Astronomy and Calendars

Among the helpful studies are JÜRGEN VON BECKERATH, "Astronomie und Astrologie," *Lexikon der Ägyptologie* 1 (1975), "Kalender," *Lexikon der Ägyptologie* 3 (1980), and "Zeiteinteilung, -messung," *Lexikon der Ägyptologie* 6 (1986); DIDIER DEVAUCHELLE, "Wasseruhr," *Lexikon der Ägyptologie* 6 (1986); ULRICH LUFT, "Sothisperiode," *Lexikon der Ägyptologie* 5 (1984); OTTO NEUGEBAUER, "The Origin of the Egyptian Calendar," *Journal of Near Eastern Studies* 1 (1942); OTTO NEUGEBAUER and RICHARD A. PARKER, *Egyptian Astronomical Texts*, 3 vols. (1960–1969); JÜRGEN OSING, "Stundeneinteilung, -beobachter," *Lexikon der Ägyptologie* 6 (1986); RICHARD A. PARKER, *The Calendars of Ancient Egypt*, *Studies in Ancient Oriental Civilization*, no. 26 (1950); and J. W. S. SEWELL, "The Calendars and Chronology," in *The Legacy of Egypt*, edited by STEPHEN R. K. GLANVILLE (1942).

SEE ALSO *Egypt in Ancient Greek and Roman Thought* (Part 1, Vol. I); *Egypt in European Thought* (Part 1, Vol. I); *Chronology: Issues and Problems* (Part 5, Vol. II); *The Use of Knowledge in Ancient Mesopotamia* (Part 8, Vol. III); *Astronomy and Calendars in Ancient Mesopotamia* (Part 8, Vol. III); and *Metrology and Mathematics in Ancient Mesopotamia* (Part 8, Vol. III).

The Use of Knowledge in Ancient Mesopotamia

JEAN-JACQUES GLASSNER

TOWARD 3400 BCE, the Sumerians invented a form of writing that was not merely the transcription of oral statements. Writing practices were soon liberated from oral statements and a new language appeared that widened the possible manipulations of meaning and acted as a mediator between knowledge and its possessor, and between the possessor and one who was being taught that knowledge. A new form of institution was created—the school—that resulted in an unheard-of ability to store data. This ability allowed the Mesopotamians to organize the world according to original criteria, both graphic and linguistic. From the very beginning, writing asserted itself as transgression.

The absence of a diachronic approach might induce one to think that Mesopotamian thought was static. Such an impression comes from the fact that, in their immense majority, the sources are undated copies of usually anonymous original works. If from one millennium to another, the same things were apparently said and repeated, it was in different contexts and their meaning altered consequently. Schools, the guardians of so many different traditions, developed in all the Mesopotamian cities; in short, wherever a temple or a palace was erected, intellectual activity flourished.

The Mesopotamians reflected and speculated on the nature of the universe, its origin, its organization, and the place of humanity within it.

As they were polytheists and saw the world as an enchanted place teeming with gods and goddesses, it was through myth and in reference to deities that they developed solutions to the problems with which they were faced. Myth was their favorite mode of expression, and they were little inclined to state the results of their reflections in what we would call philosophic terms. Myths are stories in which the gods are the main actors and in which creation is explained. Myth-making was an intellectual device that could express both symbolically and in concrete terms a conceptual system that considered the political and the social order as well as nature and the cosmos. Myths conferred validity on institutions, practices, or customs through their power to organize experience.

ON SAGES AND THE NATURE OF WISDOM

The possessor of knowledge in Mesopotamia was considered a “wise man,” one who had “wisdom,” that is, revealed knowledge of things giving access to truth. In the Sumerian language, such a man was called *ABGAL* or *UM.ME.A*. The Akkadian language borrowed these terms in the forms of *apkallu* and *ummānu*. They designated any possessor of a specialized knowledge or

craft, either scribe, surveyor, artist, or artisan. In addition, the Akkadian language had other terms at its disposal, such as *emqu* or *ḥasīsu*. (Note also the Sumerian *GAL.ZU*, “endowed with great knowledge,” or *KÙ.ZU*, “endowed with pure knowledge”; the Akkadian *eršum*, “learned,” *mūdûm*, “he who knows,” *mūdûtum*, “knowledge”; the metonymic uses of *GEŠTU/uznum*, “ear,” “intelligence,” notably in *gizzal*, “wisdom, attention,” or of *IGI/inum*, “eye,” “intelligence,” notably in the compound *IGI.GÁL/igigallum*, “wise.”) The first was derived from the Semitic root ‘*mq*, which stands for the notion of depth. The second, derived from the root *ḥss*, referred to the opening of the ear and related hearing with the capacity to understand; it had its Sumerian counterpart in the phrase *LÚ.GEŠTU.DAGAL*, “the man with a vast intelligence” (literally, “with a wide ear”).

At all times in Mesopotamian society, sages were essential figures, sharing the intimacy of kings, living in their shadow, and bestowing their advice on them. Most were legendary characters; several narratives were about the seven antediluvian sages. Uanna or Oannes, the first among them, is mentioned by Berossos, a Babylonian priest of Bel. Uanna is a combination of fish and man famous for teaching culture to humankind. Some of the sages were historical figures. Aba-Enlil-dari, better known by his Aramaean name Ahiqar, is supposed to have lived at the court of an Assyrian king during the first half of the seventh century.

The Akkadian word *nēmequ*, also derived from ‘*mq*, stood for the notion of wisdom. As is evident from the numerous activities of the god Ea/Enki, the “lord of *nēmequ*,” and from the inexhaustible resources of his intelligence, the word *nēmequ* meant the keen faculty of the mind to grasp a problem in its essence. It also describes the ability to develop a comprehensive view of a problem’s implications and to find an appropriate solution in all circumstances.

Wisdom was the daughter of revelation. The unique relationship that existed between the sage and the deity was made evident through the revelation with which he was favored. Revelations usually took the form of dreams. Such terms as *ḥasāsu*, *taklimtu* (root *kullumu*, “to show”), and *šubrû* (factitive form of the root *barû*, “to look”) were used in reference to revela-

tion. The image of a search way was often associated with the notion of revelation. Gilgamesh’s journey, for example, led the hero “on the never-ending path through which the sun goes out.” Dreams were another form of mystical journey. One such journey describes an Assyrian prince’s brief stay in the underworld.

Such wisdom was related to piety and memory—as was underlined in the verb *ḥasāsu*, meaning “to be pious,” “to understand,” and “to remember”—and led to truth. In ancient times, language was thought to be of magical-religious nature; its efficiency proved to the sage that he was indeed the possessor of truth.

Revealed wisdom cannot be likened to philosophic knowledge, yet we sometimes find evidence of what we might call a philosophic frame of mind. A document dating from the first millennium shows the flattering portrait of King Esarhaddon who “has peered into the plans of the Earth’s cohesion.” The formulation is unique; it stresses the perception a man has of the principal ideas governing the cosmic order and may be interpreted as a clear allusion to a philosophic frame of mind. Additionally, the Mesopotamians relished academic debates in which two people or two antithetical, personified realities vied with each other to prove that one was superior to the other. One of these debates, the “Babylonian Theodicy” whose author, Saggil-kinam-ubbib, lived at the beginning of the first millennium, is, through its form (each speaker going back to his opponent’s arguments to correct or to contradict them) and through its content (proceeding from the particular to the general), very close to the perspective and rigor distinctive of the philosophic mind. Finally, the small number of ancient exegeses and commentaries make it difficult to judge whether they bear witness to a sort of skepticism toward traditions.

THE ORGANIZATION OF KNOWLEDGE

Genres of Written Knowledge

The Mesopotamian sources include a vast quantity of scholarly works. These are lists of words and treatises devoted to the main disciplines studied at the time: divination, theology, astrol-

ogy, mathematics, medicine, and law. All of these works were the result of the educational methods and of an intellectual practice made easier by the development of writing and were attempts to situate the bulk of knowledge in a totally speculative perspective. Unfortunately, for want of all the clues, it is not easy to have a clear understanding of their system. (See "Akkadian Literature" and "Ancient Mesopotamian Lexicography" in Part 9, Vol. IV.)

The lists are more or less lengthy enumerations of signs or words; they are spelling glossaries that give the pronunciations of words whose meanings were given in vocabularies. In the vocabularies, terms are grouped according to various principles: linguistic, thematic, or even sometimes acrographic. Some lists were bilingual; far from being mere dictionaries, they initiated a real reflection on language.

The treatises appeared as endless successions of statements, each composed of a protasis and an apodosis, the protasis displaying an aspect of the studied object in the form of a main clause. This formulation, with its characteristic conditional introduction—"If . . . (then) . . ."—emphasizing the necessary relationship between the two elements of the statement, turned knowledge into a logical system of great rigor. The statements themselves were arranged according to a precise order in which a further aspect of Mesopotamian rationality may be discovered: Thought was never expressed in synthesizing phrases, the very character of knowledge of a cumulative type being averse to such an approach. The Mesopotamian notion of knowledge was instead based on accrued information; it was revealed progressively like a path that one traverses, each step made valid only by its juxtaposition to the next one. When writing up his treatises, the diviner devoted himself to the task of isolating, among all the patterns that presented themselves simultaneously to his eyes, one particular omen whose various parts he successively described. He then analyzed each separate item according to its appearance, number, and relative position; eventually secondary elements such as spots, hollows, or growths were examined. For each case thus brought into relief, he would propose a relationship with some specific event in human life.

Patterns of Thought

Among the logically possible patterns of thought, the most prevalent was the coupling of opposed or complementary statements. This pattern of duality calls to mind the verbal sparring matches in which two contrasting figures were engaged: the shepherd and the plowman, summer and winter, or the bird and the fish. These were attempts to analyze and define beings and things by opposing them. Another conceptualization was expressed by triads of statements consisting of a middle term sandwiched between two extremes. This pattern had its counterpart elsewhere in the triads of the great deities of the pantheon. These included the sovereign Sumerian triad An-Enlil-Enki; the Akkadian triad Shamash-Sin-Ishtar; and the ancient local triads composed of a husband, a sister, and a wife: Ningirsu, Nanshe, and Bawa at Girsu (modern Tello); DINGIR.BAGARA, DINGIR.IBLAGA, and Gatumdug at Lagash; Ninurta, Zannaru, and NIN.NIBRU at Nippur (modern Nuffar) and Dumuzi, Geshtinanna and Inanna.

Divination

Divination was an important Mesopotamian science, and it is the only one the progress of which can be approximately followed. Divination was based on experience and it turned to the past for its inspiration. Quite early, as is attested by certain models of sheep livers from Mari (Tell Hariri) dating to the beginning of the second millennium, an implicit principle emerged, according to which a fortuitous coincidence between a social event and a natural reality was to be considered an inevitable correlation liable to recur in a similar manner in the future. In other words, the diviner extrapolated patterns and sequences from the past into the future. We can see that, very early, the thought of the diviners had drawn away from sensate knowledge and asserted itself as a system. Divination as such can no longer be considered as pertaining to experimental culture.

Signs and Meanings

For the Mesopotamians, the universe was a dense and complex network of sympathies and antipathies that drew various objects and beings

together or apart. Throughout the cosmos, beings and elements adjusted to one another and communicated between themselves. The gods had their "twin replicas" in the skies, their "astral images"; the hero was "wild bull" in the sky and "lion" on earth. Examples of this view are found when the term *dāmu* (blood) was used to designate wine or the sap of certain trees (namely the cedars, a species that was not felled but "killed" after the fashion of men or gods); when Sennacherib, speaking of Nineveh, declared that "its plan had been laid out from time immemorial in the stars of heaven"; when Esarhaddon carved in stone "the astral images corresponding to the spelling of [his] name"; or when Assurbanipal called "the crown prince's palace" "the alternative to the palace that is in Nineveh." These phrases are not mere stylistic devices; instead they assert that common traits, relationships based on analogy or similitude, drew together the various elements in question.

Men, animals, and elements were affected by this essential principle of similitude according to which the similar has an effect on the similar. Likeness began in the field of spatial proximity, but it soon shed that initial constraint. Eventually, principles of incompatibility were added to the network of correspondences. Moreover, there were hidden forces that threatened order and symmetry in the universe, "evil forces . . . aiming at the destruction of symmetry." With a word and the help of its own dynamic force, analogy founded thought, driving to its furthest limits the implementation of a universe of mirrors in which everything is reflected in everything. For the author of "Marduk's Glorification," the *Enuma Elish*, the dynamic current set off by analogy originated as early as the creation of the world. In this tale, the god Marduk split the body of Tiamat, a primitive monster conceived with humanlike properties, into two separate parts that faced each other: one, the earth, echoed the other, the sky, like a mirror reflection. (See "Myth and Mythmaking in Sumer and Akkad" in Part 8, Vol. III.)

Analogy was woven into the very nature of language. We are struck by the amazing deftness with which the Mesopotamians plied the resources of their languages to express the relationships between words and things. It is here that we touch on the core of their thought, for

the analogical relationships were not only consecrated by words, they were founded by them. The Mesopotamians believed in the identity of nature and essence between a name and what it meant. The identity brought about a resemblance between the thing and its name. The real thing was ascribed in the term expressing it; a being or a thing only came into existence once it was given a name. It was enough for the creator god to utter a name for the thing thus denoted to exist. Language was not content with stating facts, it established them. The very same word that created the world by naming it gave it life and set it in motion. Therefore, the Mesopotamians were systematically engaged in verbal speculation, which obeyed several essential principles.

First, sign and meaning were closely wedded, for meaning stemmed from the sign itself. The system was based on the cuneiform signs only, with all their potentialities of interpretation and meaning. This type of writing allowed many meanings for individual signs; through a single sign, one shifted from one thing to another or from one idea to another. In addition, due to the fundamental bipolarity of Mesopotamian culture and its writing, any sign was bound to have at least a double reading, one in Sumerian and one in Akkadian. Verbal speculation was nurtured on lexicographic equivalences between the two languages.

Second, the multiplicity of interpretations was often the result of converting terms into Sumerian logograms and their Akkadian translations. Names yielded their meaning through the analysis of their supposed elements. One myth, for example, told of the creation of the goddess Ninti whose destiny was to tend the god Enki's damaged rib. NIN meant "lady" and TI stood for "rib" and "life." The vocation of the goddess, "the lady of the rib" or "the lady of the life," was inscribed in the very writing of her name.

And finally, from simple phonetic association to the most unexpected semantic associations, explanations could prove to be extremely complex and often revealed a prodigious erudition. Each meaning would immediately call up the myriad meanings supposedly present in the studied term, which was enriched throughout with a continual layering of meanings. Let us take an example. An ancient scribe considered

that the sign RE meant *re'û*, "shepherd," while it was its initial syllable; hence he accepted the equivalence RE = *šēnu*, "small cattle," because a *re'û*'s work mainly applied to small cattle.

The Mesopotamians, who were so good at playing on words and written signs, also played with figures and fractions. Esarhaddon, rewriting the recent history of Babylon, tells how Marduk had punished the crimes of its inhabitants by designating, on the "Tablet of Destinies," a period of destruction that was to last seventy years. He explains how the god, in his great compassion, had reconsidered his decision, reversing the order of the figures and deciding that the town could be reoccupied after only eleven years. This reversal of the figures is incomprehensible if one does not know that in cuneiform the written form for seventy is $\nabla\blacktriangle$ (= 60 + 10) while for eleven it is $\blacktriangle\nabla$ (= 10 + 1), that is to say the reverse order of the signs representing seventy.

None of those operations was gratuitous; they were the very basis of Mesopotamian intellectual production. The methods used were similar to the devices that rabbinic nomenclature would call notarikon and gematria, but accompanied with such cleverness that the notarikon and the gematria, compared to them, were child's play.

THE PROBLEM OF ORIGINS

Relying on myths, the Mesopotamians offered involved explanations about the origins of the world in a dramatic imagery. For the horizon of myths, here as elsewhere, was always situated in the same temporal perspective; a mythological event never preceded another, because myth, an undated narrative of punctual events that existed outside history and gave access to it, was invariably at the origin. A few essential notions, however, emerge from the background of their narratives.

Even if the state of things prior to creation was occasionally described, the Mesopotamians never imagined this lack of existence before birth that we label nothingness. They did, however, acknowledge the existence of primordial matter: Earth, Water, or Time. Among these three elements, water was given preference,

whether it was the sweet waters of the goddess Nammu or the salty waters of Tiamat who welcomed the sweet, male waters of Apsu deep down in her womb.

The beginning of the world was identified with the act that transformed this primordial matter and whose maker (he could be that matter itself) was usually considered a deity. This creator was by himself (Enlil, Enki/Ea, An/Anu, or Marduk), but two (Anu and Ea) or three gods (Anu, Enlil, and Ea) might be associated. In truth, Enlil and Enki/Ea alone were actual demiurges. Anu was rarely mentioned; as for Marduk, he was but a substitute for Enki/Ea and an avatar of Enlil. Their two figures were inseparable from the physical elements that encompass the dense and solid earth. Their very mobility suggests the image of an active god.

With the exception of the theory of the creative power of divine speech, Mesopotamian reflection on the process of creation was the result of later, more mature, thought. It followed two patterns: the first was the answer to a technical vision in which architecture and clay modeling played an important part; the second referred to procreation, the notion that the world owed its existence to the generating action of the gods. Both models revealed a genealogical vision: the creations that followed each other were perceived as successive developments giving birth, in their turn, to further creations.

Divine intervention introduced into cosmology a dimension that had to be accounted for and, to the story of the origin of the universe was added its indispensable theological complement, the story of the origin of the gods. According to the *Enuma Elish*, the gods, at the beginning, were one with primordial matter and Tiamat was the place where the first divine generations moved about. Later, the birth of gods took the form of a vast genealogical portrait and a distinction was made between the "father-gods," the generation of ancestors, and the "brother-gods," who, in their turn, gave birth to successive generations of other gods. In its beginnings, the story of the universe was equivalent to a conflict of generations between the gods. Tiamat, the primordial element, held a unique place among them all. She was a being that never reached full maturity: alive, she was a nonacculturated "savage," a *lullû*; dead, she

was an aborted embryo, a *kûbu*. Tiamat's dead body, emptied of its former life, was used to make the universe.

Telling the story of the gods engendered the story of humanity's nature and destiny. The most detailed narrative of the origins of humans and their role is found in the legendary text *Atrakhasis*. The Mesopotamian divinities, represented in temples by statuettes, had specific needs. They received food offerings, libations, and unctions, and they were daily submitted to ablutions and dressing ceremonies. To satisfy the gods, the resources of the universe, which the gods themselves had created for their own use and benefit, had to be exploited. The worker-gods, who had first carried out that function, rebelled against their working conditions. The great gods acceded to their demands and Enki/Ea proposed to substitute a being that would serve and provide for all the gods. That substitute was man. While alive, man was called *awîlu/awêlu*; once dead, he became *eṭemmu/wetemmu*. The Babylonian thinker had noted in these two terms the recurring presence of the syllable *we*, as well as the words *îlu*, "god," and *ṭēmu* (root *ṭa'm*, "taste"; the Sumerian term *DIM.MA* is borrowed from the Akkadian), "mind," more exactly the form of intelligence specific to humankind in general. In short, man was the creature that was made of both god and mind and the sound *we* partook of these two aspects, alive and dead. When the gods set out to make man, they immolated one of their own, called *we*, who was chosen because he had some *ṭēmu*. His blood, a token of life, was used to moisten the clay, the raw material of the *awîlu*. With a single word, the essence and the destiny of man were defined: he was made of clay and blood; he was endowed with intelligence; his role was to serve the gods; and he was mortal.

THE WORLD ORDER

The Mesopotamians envisioned the cosmos as a spherical or cubic form composed of three superimposed levels: the "Above" (*AN/šamê*), the "Below" (*KI/erṣētu*), and, in between, the earth, the place of humankind. Each one of these parts was subdivided into several subparts. According

to some, the "Above" was made up of three superimposed skies; the lowest sky was in turn subdivided into three. The "Above" was conceived as a liquid mass contained within a shell. It is true that other authors admit only two levels in the sky, each made of a particular stone. The "Below" was the symmetrical replica of the "Above," even though an articulate view of how it divided into three vast levels only emerged later. In the middle, the earth was a kind of firm floor, in the form of a disk or a square, floating on the lower waters and surrounded by high mountains that supported the upper part of the cosmos. A map drawn on a first-millennium tablet in the British Museum gives a picture of it as an island shelf circled by mountains and enclosed in the ring of a salty stream on the outer side of which loom eight triangular projections.

This universe was quickened by a powerful energy that the Sumerians called *ME*. *ME* was a written form of the reflexive pronoun that underlined the fact that the energies pervading the world were those of the demiurge himself, hence those of the entire set of the divine beings that peopled the earth. The myth of *Inanna and the Abduction of the ME* gives a long list of its manifestations, which concerned domains as varied as human or divine institutions, modes of thinking, and beliefs or social activities, fields in which the goddess excelled. In other words, the catalog listed expressions referring to the demiurgic energies channeled through Inanna. Another myth, *Enki and the World Order*, shows that each of these manifestations was related to an appropriate deity: rivers and streams to Enbilulu, the lagoon to Nanna, the sea to Nanshe, the rain to Ishkur, agricultural work to Enkimdu, brick making to Kulla, shepherding to Dumuzi, administration to Utu, giving birth to Aruru, and writing to Nisaba. Thus, a constituent principle of Sumerian polytheism was clearly stated: The gods and goddesses of the pantheon were the hypostases of the demiurgic energy circulating in the cosmos; each deity had a territory that coincided more or less with his or her function and marked out the field of competence.

The Akkadians had no equivalent for the Sumerian *ME*, and they had great difficulty in rendering, in their own language, all its substance. Rather than adopting an approximate translation, they resorted to more or less lengthy lists

of equations. The result included the following terms: "Above," "Below," "lord," "rage," "silence," "to be tense," "dignity," "to go round in circles," "mother," "assembly," "secret," "to speak," "language," "weakness."

The order the demiurge had imparted to the universe was not perfect; there were still enclaves dominated by the powers of chaos and whose mere presence was a serious danger for the whole cosmos. The steppe or the mountain with its forests is one example of this type of legendary and dreaded region. These places of silence and darkness nevertheless had some value: the mountain abounded in wood and stone with which the emblems of majesty, the gods' and kings' dwellings and jewels, were made. Some powers became embodied as strange and threatening creatures whenever they passed the limits of the territory allotted to them. They included barbarians that stirred at the margins of the socialized world; the dead whose existence ran counter to that of the living and who were always liable to leave the underworld and climb on to the earth in order to devour the living; and, finally, demons, which included the primitive monsters defeated at the creation but who survived in a dark, infernal world from which they could spring up at any moment, causing diseases, epidemics, or death. The world, therefore, was torn between two conflicting forces that could not remain clear of each other. The median plane of the universe, earth, was the prize at stake in this conflict, and man himself, who dwelt in its center, played an essential role in the defense of the cosmic order. (See "Theologies, Priests, and Worship in Ancient Mesopotamia" later in this volume.)

At the heart of the universe there was man, a creature saturated with analogies: from the very first instant of the creation, Marduk had placed the upper skies inside the liver of the anthropomorphic monster Tiamat, causing the springs to flow from her head and the Tigris and the Euphrates from her eyes. Moreover, man had the privilege of knowing all the names of all the species and, consequently, their future. Finally, man partook of the natures of the gods and the demons: He was *awīlu* (man), *eṭemmu* (ghost), and *īlu* (god). Several models of divinatory livers from the beginning of the second millennium are a remarkable testimony of this anthropocen-

tric conception. Indeed, the situation of the omen in no way announces a coming oracle, but is itself deduced from the oracle in question: "If I enjoy some booty and if I enter the town in good health—[the omen] will present itself in this way [allusion to the pattern on the model]." This is a striking assertion that nature and society were completely merged and that the universal order, including the exterior appearance of a sheep's liver, ultimately depended on human attitudes. This order had been established and it had to be maintained in order to last. The divine plan concerning the creation of humankind was clear: aware of the gods' will and abiding by it, humans had to ensure the working of all the wheels in the universe. Here, then, is humankind invested with its task, with a king at its head. Any royal victory was an extension of the triumph of the demiurge, any destruction was the equivalent of a regression.

Apparently, the world was subdivided into two entities, "us and them," as if we passed imperceptibly from the family circle to those of the neighborhood, collegiality, and friendship, and finally to cross the circles of hostility and monstrosity. This concentric vision followed a geographical conception according to which the earth was represented as a highly civilized core surrounded by contrasting outskirts. The outer rings were composed of four regions peopled with savages or barbarians with negative characteristics. These were creatures whose mental and physical features brought them near to the ape or the dog, without any knowledge of agriculture, cooked food, fermented drinks, table manners, towns and houses, burial rites, prohibitions, or even gods. With this terminology, which without much originality linked xenophobia and ethnocentricity, the Mesopotamian society shaped its unity. Meanwhile, the possibility of a coherent classification of the others was regarded as delay, ignorance, or impiety.

HISTORY

The Mesopotamians were also interested in their own history. We are struck by the effort they made to copy texts, collect archives, and establish chronologies; we appreciate, on occa-

sion, the tentative explanations, the application of the causality principle to human events. But let us not be mistaken, the Mesopotamians had neither the methods nor the schemes of the historian's trade. They were more concerned with selecting, around a definite center of interest, certain facts that acquired universal relevance and meaning. (See "The Historiography of the Ancient Near East" in Part 9, Vol. IV.)

The entire movement of history was perceived as a succession of cyclical periods, each cycle encompassing fragments of linear time including events and figures similar or identical to those of the other cycles. The founding narrative of a cycle was illustrated by the life story of King Sargon of Akkad. Sargon's successful exploits led to his legitimation by the gods; as a result, he restored the lately disturbed order. The final catastrophe in the saga could take the form of a flood, but it could also be an epidemic or a drought. The collapse of the Akkadian dynasty is said to have been caused by a tidal wave of savage mountain people. Quite soon, the Mesopotamians (in this case, the Akkadians more so than the Sumerians) assumed that the gods' attitudes simply echoed those of humans, and that it was man who, through his impiety, was responsible for the catastrophe that ensued from the broken link between humans and gods. The essential act for a possible return to order was, therefore, the restoring of vital communication between them. Such was the function of the sacrifice offered to the gods by the hero of the Flood myth when he left the ark.

The Mesopotamian worldview changed with the development of Neo-Babylonian chronography. There was a considerable and cumulative progress in observation. The chroniclers had acquired a more precise knowledge of events, a richer casuistry. This richer approach, which could be labeled antiquarian, was based on the condition that a greater number of questions than in the past should be asked about the same events. The project that underlay this new history required adding up the innumerable manifestations that alerted the established order to potential subversion, to give these manifestations meaning, and to guard against them. All these data together formed a stock from which it was then possible to build a sequential history.

Even though a conservative reading of history

prevailed, a historical culture rid of fables and supernatural interventions prospered. Even if those interventions remained implicit, their omission by the chroniclers shows that distance from the gods was being proclaimed. Moreover, when other people were charged with explaining these matters, historians did not have to do it; a new historiography was born from a rationalizing of tasks. Autonomy was the advantage that history gained.

Similarly, in Old Babylonian times, the diviners began to write treatises based on the above-mentioned principles. Over the centuries, these treatises became such considerable works that it was essential to synthesize them. In more or less clear terms, the diviners tried to state general rules; commentaries and guides began to appear. But, in order to reach these levels of expression, the appropriate concepts first had to be worked out. Therefore, new concepts were created. The longer list of occurrences, the strict thematic choices, and the greatest precision in every field of investigation all reveal a higher conceptualization in all fields of intellectual research. Vision had become more focused; it was required to give history its autonomy.

Translated from the French by Geneviève Petit

BIBLIOGRAPHY

- J. BOTTÉRO, "Les noms de Marduk, l'écriture et la 'logique' en Mésopotamie ancienne," in *Essays on the Ancient Near East in Memory of Jacob Joel Finkelstein*, edited by MARIA DEJONG ELLIS (1977), and "La création de l'homme et sa nature dans le poème d'Atraḫasīs," in *Societies and Languages of the Ancient Near East*, edited by M. A. DANDAMAYEV et al. (1982); A. CAVIGNEAUX, "Lexikalische Listen," *Reallexikon der Assyriologie*, vol. 6 (1983); P. GARELLI, "Le pensée préphilosophique," *Histoire de la philosophie* 1 (1969); J.-J. GLASSNER, "Pour un lexique des termes et figures analogiques en usage dans la divination mésopotamienne," *Journal Asiatique* 272 (1984), "Du bon usage des fractions," in *Histoire de fractions, fractions d'histoire*, edited by PAUL BENOIT, KARINE CHEMLA, and JIM RITTER (1992), and "Inanna et les me," in *Nippur at the Centennial: Papers Read at the 35^e Rencontre Assyriologique Internationale, Philadelphia 1988*, edited by MARIA DEJONG ELLIS (1992);

The Use of Knowledge in Ancient Mesopotamia

MOGENS TROLLE LARSEN, "The Mesopotamian Luke-warm Mind: Reflections on Science, Divination, and Literacy," in *Language, Literature, and History*, edited by FRANCESCA ROCHBERG-HALTON (1987); S. J. LIEBERMAN, "A Mesopotamian Background for the So-

Called Aggadic 'Measures' of Biblical Hermeneutics?" *Hebrew Union College Annual* 58 (1987); and CLAUS WILCKE, "Göttliche und menschliche Weisheit im alten Orient," in *Weisheit*, edited by ALEIDA ASSMANN (1991).

SEE ALSO **Theologies, Priests, and Worship in Ancient Mesopotamia** (Part 8, Vol. III) and **Myth and Mythmaking in Sumer and Akkad** (Part 8, Vol. III).

Myth and Mythmaking in Sumer and Akkad

W. G. LAMBERT

“MYTH” FOR MOST westerners implies literature. From the classical world, Ovid is an example of an author who gathered together a large body of traditional myth and welded it into a long narrative poem in Latin, the *Metamorphoses*. Centuries earlier in Greek, Hesiod had done something similar in his *Theogony*. They had both been anticipated in the ancient Near East, and what often goes under the title of the (Babylonian) *Epic of Creation* is a long narrative poem similarly putting together much traditional myth. In the Near East, however, authorship was less significant and many texts of anonymous origin were often handed down orally as well as in writing, and one must conjecture that oral myths existed before writing was invented.

HISTORICAL OVERVIEW

What we have begins with Sumerian myths known from copies of about 2500 BCE. Unfortunately they are written in a difficult scribal code, so that only odd phrases and sentences can be translated. Most Sumerian myths are preserved in copies from the first few centuries of the second millennium, when the language was spoken only by scribes. Though in this case they are not in a code, the linguistic problems that these texts present are in places formidable, so that

fully reliable translations are not yet possible. This corpus was known to Babylonian scholars, the more learned of whom were well versed in Sumerian, but after around 1600, only a selection of these Sumerian myths continued to be copied. Many were lost. (See the Sumerian literature overview in Part 9, Vol. IV.)

Meanwhile, on the northern fringes of Sumer, the Semites also produced written myths. Two are known that date as far back as around 2400, though these were found at Ebla (modern Tell Mardikh), an archaeological site in Syria south of Aleppo (ancient Halab). However, they are only intelligible in part. No doubt other third-millennium Semitic myths existed, but only by the first half of the second millennium have we material sufficient in quantity and reasonably well understood so that the subject can be studied seriously. (See the Akkadian literature overview in Part 9, Vol. IV.)

The period from around 1900–1600, the classical era of Old Babylonian literature—myth included—was characterized by originality and verve. After 1600 a certain staleness sets in, and some literary manifestations of the Kassite and Post-Kassite periods (circa 1400–1000) are very learned. The same trend occurs in the first-millennium period of Babylonian literary creativity, around 900–500, though an occasional literary genius appeared.

The number of Sumerian and Babylonian

literary myths is not large. Furthermore, for the modern reader not all make rewarding reading, due often to their incomplete state (they are being restored from broken pieces of cuneiform tablets) and, for the Sumerian, due to the uncertainties of translation. In addition, the sense and purpose rarely lie on the surface. Background knowledge is essential for their comprehension. Also, for serious work one must seek out myth in other categories of texts. Incantations—magic spells—depended for their efficacy on being recited with verbal precision, and they often contain old mythical material. Other categories of texts—those literary in the strict sense and others such as technical learned material and prayers, hymns, and liturgies—also contain items of myth, all of which must be used to build up a reliable picture of the whole. The following treatment has been based on such study.

Origin and Use of Myth

Understanding depends on a comprehensive view and must begin with prehistory. A comparison of mythologies from the Aegean to the Indus Valley reveals striking similarities. For example, the Sumerian *Descent of Inanna to the Netherworld*, its Babylonian equivalent, the *Descent of Ishtar to the Netherworld*, and the Greco-Roman myth of the rape of Persephone/Proserpina all arise from the same desire to explain the change of seasons whereby those of growth and fruitfulness alternate with those of dormancy and decay. The goddesses in question personify fruitfulness, and their presence aboveground results in the growth of spring and summer, while their descent to the netherworld deprives the earth of these benefits.

There are so many similar myths known from this wide area that it seems likely that already in prehistoric times there was a common intellectual heritage in the region. No doubt ideas did originate somewhere with a particular thinker, but certainly all the basic ideas of this heritage had been in existence for millennia before we first know them in writing. Nothing is more foolish than the assumption that the first written sources available to us are the original fountainhead from which all other cultures borrowed. Certainly such culturally dynamic civilizations as the Sumerian and Babylonian did influence

their neighbors in many matters, including myth, but influence in the opposite direction also occurred, and in all areas there was a massive inheritance from the past.

As we can trace it, literary myth was only part of this inheritance. No doubt in prehistoric times, there were professional or semiprofessional rhapsodists who could enthrall audiences with long, eloquently recited literary myths, but myth also existed in short-item form: single episodes told in a paragraph or even one sentence. These could be learned by any interested person and passed on to others.

Some scholars have argued that most myth was composed specifically for recitation in religious ceremonies, but that is probably wrong. There is of course the example of the recitation of the Babylonian *Epic of Creation* to the statue of the god Marduk in the course of the late Babylonian New Year festival. But the epilogue to the text describes its purpose as being to educate mankind generally in the greatness of Marduk, and its cultic use seems to be secondary. Official cults may well have been a factor in the creation and preservation of myth, but in origin myth served a purpose essential for all thinking persons.

It is clear from comparative study of myths even within one civilization that they are based on the short items which constituted traditional building blocks. Originality involved not fundamental innovation but reusing old motifs, combining them into longer wholes, or giving them a new twist to make them more relevant to the author's time.

As we know it, ancient near eastern mythology is far removed from its ultimate origins. The very invention of writing is an incidental indication that civilization was mastering nature so that people were no longer so much at its mercy as they had been before. Just as the wonders of modern science have for many reduced the relevance of religion, so it was in antiquity with the development of material culture. Crops were being produced in such abundance that surpluses in good years were being stored to prepare for a bad year. Human resourcefulness had begun to override the perceived need to pacify and reconcile angry natural forces. Of course traditions and the emotions involved did not suddenly wither, but much of the literary myth that

survives reveals purposes unrelated to the original function of myth, which was to explain the physical universe. The authors, from anonymous Sumerians to the Roman Ovid, were frequently more interested in a good story than in lucidly explaining such things as the changing seasons. The implications of the old mythologies they reuse are left to the hearers' understanding. Similarly the old stories could be put to totally new purposes.

The Erra Myth

Over the centuries the city cults of Mesopotamia rose and fell; the rise of Marduk, city god of Babylon, from third-millennium obscurity to first-millennium supremacy in the pantheon is the most conspicuous example. The author of the so-called Babylonian *Epic of Creation* wove together a score of old mythical motifs into a gripping epic conflict to explain and justify Marduk's rise. At the same time, the author maintained a subtle undertone of hostility to Enlil, city god of Nippur (modern Nuffar), the previous head of the pantheon.

A totally different use occurs in the *Erra Myth*, perhaps the latest major Babylonian literary myth. The development of ancient Mesopotamia was abruptly halted around 1000 when Aramaean hordes, apparently forced out of the Syrian desert by drought, swarmed over the whole of Mesopotamia, disrupting everything, including of course the cults. This literary myth centers on the god Erra, elsewhere another name of Nergal, god of the netherworld; in this case, his destructiveness is the aspect stressed. His natural bent was to cause trouble on earth. The text is unusual in that there is virtually no action. The whole text is dialogue between Erra and other gods, especially his vizier, and all the action is told in the course of this dialogue.

After a lethargic start, Erra is roused and arranges with Marduk, king of the gods, that his onslaught on the earth will not do irreparable damage to the universe. The justification for Erra's plan is that human noise has been keeping the gods awake (a traditional motif reused) and that the animal kingdom has been misbehaving. Thus, in due course, destruction is let loose. Up to this point, more than halfway through the story, the text is purely mythic, with nothing to

help the modern reader understand how, if at all, it relates to reality. But suddenly the dialogue alludes to historic events on earth which took place during the Aramaean invasions. At this point Erra is persuaded by other gods to desist, and Babylon is promised a brilliant recovery from the havoc that has just afflicted it. It was normal in the thinking of Sumerians and Babylonians to interpret events of history as the working out of divine wills, and in their polytheistic world gods of evil disposition were conceived responsible for disasters both personal and collective.

CREATION AS A THEME IN MYTH

To illustrate the development of Sumerian and Babylonian myths, we will consider here ideas of creation, since that is a very basic theme of mythology. The concept itself needs to be defined. In modern Western civilization, ideas of creation are largely influenced by the traditional translation of Genesis 1:1: "In the beginning God created the heavens and the earth." As rendered, this is equivalent to the modern scientist's "big bang": creation is something that happened on a grand scale in the beginning. However, the verse should be translated, "When God began to create the heavens and the earth . . .," which is confirmed by the statement at the end of this particular narrative: "the heavens and the earth and all their host were completed" (Genesis 2:1). Thus creation here is not a big bang but a process culminating in the known universe, and this holds for all creation myths of the ancient Near East.

Furthermore, the English "create" is prejudicial. It is a technical term for God's making of the universe, not a general term for any kind of manufacturing. It is based on the Hebrew word *bārā'* used in this verse in Genesis and elsewhere in the Hebrew Bible. The Israelites were distinctive in this matter, since other ancient near eastern languages do not have a technical term "create" to signify their gods' making the universe, and historically the Hebrew term may well have had a secular background.

In Babylonian there is no word reserved for

divine creative activity. The common verbs *banû* ("build"), *epēšu* ("make"), and *bašāmu* ("fashion") can be used equally of gods and men. The nearest approach to such a technical term comes in what are self-evidently circumlocutions: *šūpû* ("to make visible") and *šuzuzzu* ("to cause to stand")—both amounting to "bring into being"—and "to name." The last arises from the ancient view that a name was not simply an identification tag but a hypostasis of the thing. Thus the first couplet of the Babylonian *Epic of Creation*:

When above the heavens were not named,
Below, the earth was not called a name. . . .

means simply, "Before heaven and earth existed." Also in the Babylonian *Epic of Gilgamesh*, the hero is asked on one occasion, "Who is your name," to which he replies, "Gilgamesh, my name, am I."

Cosmology as Separation

In the earliest preserved Sumerian myths, most of the significant features of ancient near eastern myth are present. As stated above, the texts as a whole are unintelligible, but odd sentences and phrases are clear, of which here are two:

. . . Enlil, to separate heaven from earth,
to separate earth from heaven . . .
.
. . . to separate heaven from earth, to separate
earth from heaven, to separate heaven from
earth . . .

The idea here is derived from reflection on the perceived cosmos. The earth—conceived as flat—on which mankind lives is one major part of it. The other is the celestial regions above the earth, conceived at least in part as solid. How did these two parts originate? Following the very common and timeless notion that the present physical universe began as something simpler than what it now is, it was supposed that originally heaven and earth had been a single body of matter and that creation began with their separation. The first excerpt above has no further preserved context. The preceding and following words are lacking. The context of the second is preserved but not understood.

Enlil was the chief god of the Sumerians, and evidently he was involved in the sundering, as in another Sumerian myth known from tablets of the early second millennium:

Enlil, to bring forth the seed of the land
from the ground,
Hastened to separate heaven from earth,
Hastened to separate earth from heaven.

Here "the land" is Sumer, and "the seed of the land" is the Sumerians, conceived chauvinistically as the human race. Thus creation begins with the making of a two-level universe out of a single body of matter so that the way is prepared for humanity.

Variant forms of the same short myth occur very widely. In the Babylonian *Epic of Creation*, after the god Marduk has defeated the primeval monster Tiamat (Sea), he splits her body into two "like a dried fish," the upper (watery) part becoming the heavens, from which rain may fall, the lower (solid) part becoming the earth. The Hittite Ullikummi myth (fourteenth–thirteenth century) mentions a saw used in the beginning to sever heaven from earth: "When it happened that heaven and earth were cut apart with a saw." In Genesis 1:6–8 there is a variant form of this idea. At first existed earth and water, and the first act of creation was that of light. Next (on the second day), God separated the water into an upper and a lower part: "God said, 'Let there be a plate between the water to separate water from water.' So God made the plate and separated the water beneath the plate from the water above the plate. So it came about. Then God called the plate 'heaven.'" (For more on Hittite myth, see the chapter on the Kumarbi Cycle later in this volume.)

A Phoenician cosmology is attributed to an obscure writer Mochos by Damascius, a fifth–sixth century CE Neoplatonic philosopher. According to this there existed first the pair Aether and Aer (Air), from which was begotten Oulomos (Eternity). From him was born first Chousor, the craftsman god, then an egg: "The egg is heaven. It is said that when it broke in half heaven and earth came about, one from each of the pieces." A similar idea is attributed to Greek Orphic thought by the Christian apologist Athenagoras (second century CE). In this

case water existed first, then mud, and from both a snake with a lion's head and also a face of a god was born, called Heracles and Chronos. Heracles then produced a big egg, which split into two. The upper part was made into heaven, the lower part into earth.

Many more examples from farther afield could be cited, but the few given are sufficient. The basic idea of a body of primeval matter that is split can take many forms. It can be solid or watery, or a mixture of the two. It can be introduced into various cosmologies, either as the first thing to exist, or derived from preceding forms of matter. The sundering can be done as a job of work (with a saw, for example), or, as in the last example quoted, it can happen spontaneously. One sees here how a mythological building block is put to use in cosmologies with very different overall ideologies. For example, in some, gods manipulate the primeval matter, in others, the matter is the only power, so that it operates of itself. (See "Ancient Near Eastern Myths in Classical Greek Religious Thought" in Part 1, Vol. I.)

The ancients were constantly torn between two ideas. On the one hand, there is physical matter that seems to be inert—a piece of stone, for example. On the other hand, there are clearly powers at work in the universe. The sun moves across the sky, mysteriously propelled by some power. These powers were their gods, and not only were such plainly visible phenomena as the sun and moon considered divinities; powers for which there is nothing visible or tangible were similarly understood. Seeds germinated and in due course yielded crops. Animals mated at certain times of the year, and eventually young were born. Powers were assumed to be at work behind these and other natural processes, and these powers were deified and worshiped. All this was perfectly reasonable at the time. But the ancients also attributed personality to their gods, and with it human emotions. This raised problems, since it resulted in anthropomorphic conceptions. It was possible to regard the sun in the sky as the sun-god simply; however, it was normal in historical times, for ancient scholars at least, to consider the sun-god to have human form and to live in the heavens in a palace with wife, children, courtiers, and servants, just like a human ruler but on a grander

scale and without human limitations. The actual sun in the sky then became the god's symbol, though it appears that (from our point of view at least) there was some confusion about this. In practice, the cults established on earth to worship these gods were based mainly on the anthropomorphic concept of the divinity, with the underlying natural attributes being maintained but hardly being the dominant concern. This influenced the way the ancient thinkers understood their mythology. Nature as observed had to be balanced against the long-established pantheon of gods with human personalities.

Theogony as Spontaneous Generation and Sexual Reproduction

The most probing thought involved ultimate origins. What came first? The ancients, like modern scientists, assumed that everything now in existence went back to a simple element. In recent decades a gas has been assumed by some scientists to have been the prime element in the universe. In the ancient Near East, there were various candidates—earth, water, or endless time, which can appear either alone or in combination. Only very rarely was the question put as to how the prime element arose, but it did occur and one answer is supplied in a bilingual Sumero-Babylonian incantation:

Heaven was created of its own accord.
Earth was created of its own accord.
Heaven was abyss, earth was abyss.

Here spontaneous generation of heaven and earth (namely, the universe) is proclaimed, but then we are told that there was in fact no heaven or earth but only a body of water, which is the implication of the third line quoted.

The concept of self-generation was mostly associated with the moon. It grew in size during each (lunar) month, then declined and finally vanished. It was thought that at the end of each month it died, went down to the netherworld, and came to life again by its own efforts. This provided a useful concept to explain the origin of prime elements, even though they had not existed before.

However, prime elements must somehow engage in procreation if the universe as we know it is to come into existence. An example is pro-

vided by the opening twelve lines of the Babylonian *Epic of Creation*:

When above the heavens were not named,
Below, the earth was not called a name. . . .
There was Apsu, the first in order, their
begetter,
And Demiurge Tiamat, who gave birth to them
all;
They had mingled their waters together
Before meadowland had coalesced and reed-bed
was to be found—
When not one of the gods had been formed
Or had come into being, when no destinies had
been decreed,
The gods were created within them:
Lakhmu and Lakhamu were formed and came
into being.
While they grew and increased in stature
Anshar and Kishar, who excelled them, were
created.

Here primeval water has been divided into two parts: a male part called Apsu and a female part called Tiamat. Apsu in the Babylonian language is a masculine noun referring to a huge body of water, conceived to lie under the earth, from which all springs draw their supplies. Tiamat is a feminine noun in Babylonian meaning "sea." The prime element, "water," was adapted in this way to introduce the process of animal procreation. The ancients knew perfectly well the function of the bull (for example) in producing calves, and the Babylonians also understood sexual differentiation in some plants. The palm tree, their only cultivated tree, was rendered more fruitful by artificial pollination of the female palms. The technical term for this is *rukkubu*, "make to ride," from the riding of the male on the back of the female in the mating of domestic quadrupeds. Thus sexual differentiation of species seemed a fundamental of the universe. Also there were husbands and wives among the gods. It was logical, therefore, to split water as a prime element into male and female parts.

Creation thus began with Apsu's and Tiamat's mixing their waters together—primeval sexual intercourse—and so the next generation came about. Lakhmu and Lakhamu were divine beings conceived to stand at each end of the earth (on an east-west axis) and to hold up heaven with their raised arms. A second pair was then

born, Anshar and Kishar, whose names are Sumerian, "Whole heaven" and "Whole earth." They, too, are male and female, since the Babylonian word for "heaven" is masculine, and that for "earth" is feminine. And mythologically this made great sense, since if plant life is considered a paradigm of existence, then father heaven sends down his fertilizing rain into the bosom of mother earth and plant life can flourish: cosmic sexual intercourse.

Thus the theogony offered in this opening passage proceeds very rapidly from the prime element, water, to the known universe consisting of heaven and earth. However, the author was not concentrating on these details. He was merely using traditional material to lead up to gods who were actually worshiped in his time. Note how the wording of these lines differentiates between, for example, Apsu and Tiamat and "gods."

The first god to occupy a position of any importance in the Babylonian pantheon follows on Anshar and Kishar, and he is Anu—the Sumerian AN, "heaven," with Babylonian nominal ending *-u*, thus duplicating Anshar. In due course, the author's heaven and earth arise from splitting the body of the defeated and killed Tiamat, as stated above.

Thanks to its literary character, the Babylonian *Epic of Creation* is explicit, but its ideas are only a part of the total of such ideas that were circulating at the time. A myth in another Sumero-Babylonian incantation tells how water was the prime element: "All the lands were sea." In this case, however, the element is inert and the god Marduk creates the earth by making a raft, floating it on the water, and piling earth on it. This account offers no explanation of Marduk's origin. However, most commonly the senior gods' origins are explained as resulting from sexual reproduction from prime elements or their successors.

Writing played a major role in the development of this concept because the ancestry of the most important Sumerian god, Enlil, was put in writing at least around 2500 and continued to be copied by scribes in more than one category of text until around 300. It varies from period to period and even within one period, but in essentials it remained unchanged. It begins with the pair Enki and Ninki ("Lord earth and Lady

earth") and ends with Enlil and Ninlil, but the intervening En- and Nin- pairs constantly vary, from two or three to more than twenty. It seems that the intervening pairs serve only to put distance between the primeval Enki and Ninki and the worshiped Sumerian god Enlil and his spouse Ninlil. Enlil's ancestry constitutes only a list, not a narrative, though at the end some copies have a few words explaining that these pairs are the "mothers-fathers" (that is, ancestors) of Enlil. The only real mythical component is Enlil's descent from the prime element, earth, which is another idea to be put alongside water. Both in fact occur in the first verses of the Hebrew Genesis: "When God began to create the heavens and the earth—the earth was altogether disordered, there was darkness over the deep and the spirit of God was hovering over the waters." Earth and water are taken as already existing, while the continuing words from Genesis 1 (quoted above) explain the origin of heaven. Here Hebrew monotheism does not, of course, tolerate live, active cosmic elements or the crude anthropomorphism of Sumero-Babylonian sexual generation.

An Unusual Myth

The Babylonians, nevertheless, had many problems with their concept and its expression in the traditional list of Enlil's ancestors. The list was the outcome of perfectly rational thinking, but it creates the difficulty that incest took place in every generation but the first. Incest was as taboo in Babylonia as in most human societies. The *Epic of Creation* sidesteps the problem. First, it does not explain whether the third pair were offspring of incestuous union of the second or were a second pair born to the innocent Apsu and Tiamat. That avoids acknowledging one act of incest, but the problem of Anshar and Kishar producing Anu remains. However, in the case of Anu, the first god in the list commonly worshiped in the author's time, no spouse is named despite recounting the birth of Anu's son Ea (father of Marduk). Later in the narrative, at the birth of Marduk, his mother Damkina is named and plays a normal mother's role, but nowhere is her origin explained.

However, not every Babylonian mythographer was so coy. Some accepted the conse-

quence of the traditional list of pairs, and one even reveled in both incest and murder. This version comes from a small town called Dunnu, not certainly located but apparently not far from Nippur, Enlil's town. The first pair in this account, in Babylonian language, are Khayin, the male and otherwise unknown, and Earth, the female. The second generation consists of, first, a female Sea, created by making a furrow in the ground with a plough (which apparently filled with water), then the male Amakandu, god of domestic quadrupeds. At this point the story runs clearly for some lines:

[Earth] cast her eye on Amakandu, her son,
"Come, let me make love to you," she said to
him.

Amakandu married Earth, his mother, and
Khayin, his [father], he killed [and]
Laid him to rest in the city of Dunnu, which he
loved.

Then Amakandu took the overlordship of his
father, [and]

. . . married Sea, his sister.

Lakhar, son of Amakandu, went [and]
Killed Amakandu, and in the city of Dunnu
He laid [him] to rest in the . . . of his
father.

He married [Sea], his mother.

Then Sea murdered Earth, her mother.

Such a tale of criminality was clearly unacceptable to other Babylonians, and the arrangement and summaries of the traditional list of Enlil's ancestors reveal that modifications could remove the problems. Instead of the list being a sequence of pairs of spouses, with each pair born to the previous one, it was reinterpreted as a list of pairs of names, each pair representing a stage in the development of only two beings. Thus Enlil was now explained as being a mutation, through sundry stages of mutations, of the primeval Enki, and similarly Ninlil of Ninki. This was evolution through a series of named stages, not sexual procreation. It is clearly a perversion of the original intention of the list. Unfortunately, we have no literary expression of the idea; it is restricted to lists that identify all the male and all the female names as one pair and which modify the explanatory phrases at the conclusion to express this interpretation.

Prime Elements: Time and Eternity

The third prime element, eternal time, is found especially in an ancestry of the god Anu, which consists of pairs, like that of Enlil. Again like that of Enlil, it varies from source to source, but one typical example reads:

Duri	Dari
Lakhmu	Lakhamu
Alala	Belili

The first pair constitutes a normal phrase in the Babylonian language meaning "Ever and Ever," but here it is taken as a male-female pair. The following pair, Lakhmu and Lakhamu, is the same as found in the Babylonian *Epic of Creation*, but Alala and Belili are too little known to supply an interpretation of the list generally, though Alala without Belili occurs in a well-known Hittite theogony. The pair "Ever and Ever" parallel Oulomos (Eternity) of Mochos of Sidon, quoted above. A few of the longer forms of Enlil's ancestry also include a pair representing eternal time, either Alma and Alama or Khalma and Khalama, which are etymologically cognates of the Phoenician Oulomos. To us it seems that conceiving something immaterial like time as a prime element represents sophisticated thinking.

Clay and Divine Blood:

The Creation of the Human Race

Whatever version one follows, creation must result in heaven and earth, since they were perceived to exist by the ancients. The other result required of any creation account was that of the human race. Here, though there is no more uniformity than in accounts of the formation of the cosmos, only two basically different versions are known: in one the human race grew out of the ground like plants; in the other mankind was created from clay, mixed with divine blood, and molded into figurines. The first of these concepts is most often associated with the cult of Enlil in Nippur, the major Sumerian religious center. The second is most often associated with the god Ea, patron of the Old Sumerian town Eridu (Abu Shahrain), close to the Persian Gulf.

The first is no doubt simply using the growth of plants as a pattern for the human race's origin.

The notion occurs in a three-word Sumerian myth inserted at the very beginning in many copies of Enlil's ancestry. It reads, "Earth, where barley sprouted." Here is a myth of the origin of life. Barley was fundamental to the Sumerians' existence, since it was their basic crop and provided their basic food and drink: bread and beer. In a generally rainless climate like that of Sumer, the growth of plants would have an aura around it, and some concluded that by divine will life on earth had begun with an ear of barley sprouting. By extrapolation some concluded that the human race arose in the same way. A hymn to Eridu states:

After the destinies had been decreed for all
creatures. . . .
After the peoples had cleft the ground like
plants. . . .

In Nippur there was a sacred spot where it was supposed that the human race had originated, called Uzumu'a or Uzu'e'a, "(where) flesh sprouted/grew." There is no detailed literary account of this myth, but a Sumerian text about the pickax, the fundamental tool for their agriculture, alludes briefly to it:

He (Enlil) planted his pickax in Uzu'e'a
He put human slaves in the brick-mold,
Enlil's land (i.e., its people) cleft the ground
toward him,
He gazed intently on his black-headed ones.

The mention of the brick-mold muddies the passage. "Cleaving the ground" is a stock phrase in Sumerian for plants' emergence from the soil, and so all lines quoted but the second fit easily and naturally into a picture of the human race growing out of the ground. In contrast, the mold suggests fashioning human bodies out of clay. Since this is only an unelaborated allusion, one is left with a suspicion that in a full narrative of the events the meaning would become clear.

The other version, that of fashioning humanity from clay and divine blood, is more common and detailed accounts of it survive. Clay had been the normal modeling material used by humans from the earliest times, and after metallurgy was developed, clay commonly continued to serve

this purpose because of its availability, its cheapness, and the ease with which it could be shaped. Thus the idea of clay being modeled into human bodies arose, but clay by itself did not, in the Mesopotamian view, result in living beings. The life element had to be sought in something additional.

This idea is not confined to ancient Mesopotamia. In Genesis, chapters 2–3, Adam is formed (in the traditional English wording) from “the dust of the ground,” and when the sentence of death was pronounced on him for disobedience he was told, “Dust thou art, and unto dust shalt thou return.” Here, too, earth alone was not thought sufficient to explain life, and in the Israelite account God “breathed into his nostrils the breath of life.”

In the Sumero-Babylonian world blood, and necessarily divine blood since no other existed at the time, provided the life element in the clay. The ancients had seen that life only comes from preexisting life, and that inert matter does not of itself engender living beings. The Israelites, too, knew the idea that “the life is in the blood,” but their creation narratives do not use it, since their concept of God could not accommodate the notion of divine blood being transfused into human bodies.

Three literary myths expound the idea of the human race being made from clay and divine blood: the Sumerian *Enki and Ninmakh*, the Babylonian *Atrakhasis Epic*, and the Babylonian *Epic of Creation*. *Enki and Ninmakh* is known from copies dating to about 1900–1600 and a Late Assyrian version with interlinear Babylonian translation. The *Atrakhasis Epic* is known best from copies around 1800–1600, though parts of later editions also survive. While the *Epic of Creation* was probably composed close to the end of the second millennium, the first copies date around 900, and most are still later.

Enki and Ninmakh starts from the separation of heaven and earth and proceeds through divine marriages to an increased divine population of the earth, which causes problems of food supply. The gods have to produce their own food. They complain, and Namma, mother of Enki (the same as the Babylonian Ea, not to be confused with Enki, the prime element with spouse Ninki)

brings the matter to the attention of her son. He plans the creation of a race of beings to take over the hard work in the universe. First, he produces a group of seven birth goddesses, then he decides to bring into being the new race by using blood. The words are obscure, but a literal translation is, “Mother, there is the blood you set aside; impose on it the hard labor of the gods.” So the blood is mixed with clay, the birth goddesses nip off pieces of clay, Namma molds these pieces into human shape, while the Mother Goddess Ninmakh acts in some not clearly specified way. Namma functions as midwife with the assistance of the birth goddesses. Then she decrees the function of the new creatures in the universe while Ninmakh imposes the hard labor. With arrangements made for the reproduction of the new being, the task is finished. The multiplicity of actors in this story—ten in all—probably stems from a determination on the author’s part to include variant traditions in his work.

Atrakhasis begins with the great gods Anu, Enlil, and Ea apportioning the universe. Anu goes up to heaven, Ea down to the Apsu, while Enlil stays on earth and puts the junior gods to work digging irrigation canals and cultivating the land to provide food and drink. They soon tire of this and have a showdown with Enlil, demanding a less arduous life (the first strike in history!). Enlil invites Anu and Ea to confer with him on this issue, and they agree that the labor imposed on the junior gods is excessive.

Ea proposes that the Mother Goddess, in this case called Belet-ili, Mammi, or Nintu, should be invited to create the new race. Ea in the event provides the plan. The ringleader of the strike is put to death as punishment, and his blood is mixed with clay by the Mother Goddess. On this mixture the great gods all spit. (Spittle had magic power.) Next the birth goddesses, fourteen in this case, come together, and in this company Ea treads on the clay to complete its mixing, while the Mother Goddess nips off fourteen pieces, which are arranged in two rows of seven with a “brick” between the rows. (This is a kind of brick table on which mothers in fact underwent their labor in real life.) The fourteen birth goddesses “complete” the clay lumps, apparently shaping them, and after nine months elapse, the human race emerges from this pro-

cess with the first seven couples. This version has essentially the same features as *Enki and Ninmakh*, but the blood is supplied in this case by a miscreant god.

The Babylonian *Epic of Creation* is mainly concerned to explain how Marduk became supreme in the pantheon. The essentials of the story are that he saved the gods threatened by Tiamat and a host of monsters by single combat with Tiamat, and that as a reward he was promoted to be supreme god. Epic combats are a common feature of myth, though their ultimate motivation is unclear. Once Marduk wins his victory, he immediately sets to work to reorganize the universe, and in doing so fulfills a condition that the other gods imposed when they accepted his terms in connection with his taking on Tiamat. They demanded that he use his supreme power to provision their shrines. In the event the task is done jointly by Marduk and Ea. Marduk provides the idea to form a new race of beings to take over the hard work of the universe. To this end Qingu, the commander-in-chief of Tiamat, being found guilty of provoking the conflict (contrary, in fact, to the earlier narrative of this work) is put to death and so provides the required blood. From this blood, the story continues, Ea makes mankind. Clay is not mentioned, and all the other actors of the earlier accounts are ignored. Probably the author intended his hearers to take the clay for granted, but he has deliberately simplified the account since it is incidental to his main purpose.

THE DEVELOPMENT OF MEANING IN MYTH

With all the ancient near eastern myths, serious understanding does not come from a single reading and grasping of the events in narrative form. Myths are the final outcome of millennia of development, and have often lost much of their original seriousness and purpose. This can be seen in the case of Babylonian myth. For example, Berossus, a priest from Babylon contemporary with Alexander the Great, who wrote in Greek an account of Babylonian antiquity, informed his

no doubt sophisticated Greek readers that these old myths were allegories. Unfortunately, we do not have any allegorical explanations from him, since only quotations in other authors survive from his work. But it is clear that the Hellenistic world under Greek and other influences was, at least among its more intellectual circles, seeking some totally new answers to the problems with which myth had dealt for so long. (See also "Ancient Mesopotamia in Classical Greek and Hellenistic Thought" in Part 1, Vol. I.)

BIBLIOGRAPHY

Translations of ancient texts within this chapter are those of the author, though he has occasionally followed the wording of the King James Version of Genesis when it is acceptable to him. Sumerian and Babylonian texts are used or quoted from new editions of the author based on original study of the cuneiform tablets.

General Account

SAMUEL NOAH KRAMER, ed., *Mythologies of the Ancient World* (1961).

Translations

JAMES B. PRITCHARD, ed., *Ancient Near Eastern Texts Relating to the Old Testament* (1950; 3rd ed. 1969); HARRY A. HOFFNER, JR., *Hittite Myths*, edited by GARY M. BECKMAN, Society of Biblical Literature, Writings from the Ancient World, vol. 2 (1990).

THE BABYLONIAN EPIC OF CREATION AND OTHER BABYLONIAN MYTHS

ALEXANDER HEIDEL, *The Babylonian Genesis* (1942; 2nd ed. 1951).

ATRAKHASIS

W. G. LAMBERT and A. R. MILLARD, *Atra-ḫasīs: The Babylonian Story of the Flood* (1969).

SUMERIAN MYTHS

THORKILD JACOBSEN, *The Harps That Once . . . : Sumerian Poetry in Translation* (1987).

Myth and Mythmaking in Sumer and Akkad

PHOENICIAN MYTHS

HAROLD W. ATTRIDGE and ROBERT A. ODEN, JR., *Philo of Byblos: The Phoenician History*, Catholic Biblical Quarterly, Monograph Series, vol. 9 (1981).

sus, Sources from the Ancient Near East, vol. 1/5 (1978).

BEROSSUS

STANLEY MAYER BURSTEIN, *The Babyloniaca of Berossus*,

ORPHISM

W. K. C. GUTHRIE, *Orpheus and Greek Religion* (1935; 3rd ed. 1993).

SEE ALSO **Ancient Near Eastern Myths in Classical Greek Religious Thought** (Part 1, Vol. I); **Ethics and Piety in the Ancient Near East** (Part 8, Vol. III); **The Use of Knowledge in Ancient Mesopotamia** (Part 8, Vol. III); **Theologies, Priests, and Worship in Ancient Mesopotamia** (Part 8, Vol. III); and **Akkadian Literature: An Overview** (Part 9, Vol. IV).

Ancient Mesopotamian Religious Iconography

ANTHONY GREEN

*The gods of the nations are idols of silver and gold,
made by the hands of men.
They have mouths but cannot speak
and eyes but cannot see;
They have ears but do not hear,
and there is no breath in their nostrils.
Their makers grow like them,
and so do all who trust in them.*

(Psalm 135:15–18)

ONE THING that makes the ancient Near East so interesting to the student of history and culture is the clash and fusion of differing peoples, traditions, and beliefs. In Mesopotamia this interplay is marked in particular by the two contrasting cultures and societies of the Sumerians and the Semites. The history of ancient Mesopotamia is distinguished by the resolution of the conflicting systems of language, thought, expression, and everyday life of these two great peoples. This is no less true of the arts, especially, perhaps, of religious art, which was formed and adapted—or reinterpreted—to meet changing faiths and beliefs or, conversely, was sometimes a source of religious doctrine. The overwhelming impression is one of great conservatism in the basic repertoire of religious iconography but, largely as a necessary result, some flexibility in interpretation to meet fundamentally differing theologies.

THE LANGUAGE OF SYMBOLS: IMAGE AND BELIEF

Perhaps the most striking element in ancient Mesopotamian religious art was the symbol. Generally, its significance was simple and direct. Certain relatively uncomplicated images—such as phenomena in the sky, tools of the land, animals, animal hybrids or animal-headed and other standards—were used as direct substitutes for individual gods and goddesses. Occasionally a single deity might have more than one such symbol or a particular symbol might in exceptional circumstances stand for more than one deity or as a general attribute of any deity. Generally, however, there is a one-to-one, often straightforward relationship between the image and the god or goddess thereby represented.



Fig. 1. Principal symbols of deities. See the table for precise identifications.

TABLE to Accompany Figure 1
Principal Symbols of Deities

Abbreviations: PH prehistoric; ED Early Dynastic; Akk Akkadian; OB Old Babylonian; NS Neo-Sumerian; Kass Kassite; PK Post-Kassite; Mit Mitannian; MB Middle Babylonian; MA Middle Assyrian; NA Neo-Assyrian; NB Neo-Babylonian (contemporary with NA); LB Late Babylonian (Post-Assyrian); Ach Achaemenid; Sel Seleucid (Hellenistic).

Kudurru: In Babylonia, a replica of boundary stone placed in a temple, recording a land grant, usually involving the crown

Symbol	First Attested	Last Attested	Deity Represented
1. solar disk (Akkadian <i>šamšatu/nip̄hu</i>)	Akk	LB	Usually sun-god Shamash (but with some apparent confusion with no. 5).

Symbol	First Attested	Last Attested	Deity Represented
2. winged disk, often surmounted by upper figure of a god, sometimes also with inward-looking heads of gods on tips of wings	Mit	Ach (and up to modern times)	Almost certainly the sun-god Shamash, although some scholars regard it as a symbol of the Assyrian state-god Assur, and it has also been attributed to the war-god Ninurta.
3. cross	Kass	NA	Probably sun-god Shamash (sometimes substituting for no. 2).
4. crescent, often within disk (Akkadian <i>uskāru</i>)	PH	LB	Moon-god Nanna/Sin (at least from OB).
5. 8-pointed star, usually in disk (Akkadian <i>kakkabu</i>)	PH	LB	Usually Ishtar, goddess of love and war, the planet Venus.
6. seven dots or seven stars	Mit	LB	Sebittu, the "Seven (gods)," the Pleiades (at least from NA/NB).
7. lightning a lightning flash (zig-zag line) b double- or triple-lightning fork	Akk OB	OB LB	In all periods and places, symbol of the storm-god, whether Ishkur in Sumer, Adad in Assyria, or some local deity.
8. triangular-headed spade or hoe (Akkadian <i>marru</i>)	NS	LB	Babylonian state-god (originally agricultural deity?) Marduk (at least on Kass and NA-LB monuments).
9. plough (as symbol)	ED	NA	Ningirsu (at least on Kass <i>kudurru</i> s)
10. barley stalk (as attribute) (as symbol)	Uruk Kass	NA Mit	Labeled on one <i>kudurru</i> as symbol of goddess Shala.
11. stylized tree	PH	Ach	A general symbol of fertility? Any more precise significance unknown.
12. vase with streams (Akkadian	Akk	LB	A general symbol of

Ancient Mesopotamian Religious Iconography

<i>Symbol</i>	<i>First Attested</i>	<i>Last Attested</i>	<i>Deity Represented</i>	<i>Symbol</i>	<i>First Attested</i>	<i>Last Attested</i>	<i>Deity Represented</i>
<i>hegallû</i> "abundance")			fertility? Close associations with the water-god Ea, and with Marduk and his son Nabu, have been suggested.				Ninkhursag or Nintu. An association with Ishtar as goddess of sex is also possible. On a MA cylinder seal from Samsat, the symbol is held by a god who also holds a crescent (no. 4), so presumably this symbol represents Sin or a local moon-god.
13. horned cap (as symbol)	PH	LB	On Kass <i>kudurrus</i> the symbol is labeled as that of the supreme sky(?) god Anu, but in NA art it was usually transferred to the new state-god Assur; sometimes three caps represented Assur, Anu, and Enlil, or in Babylonia a pair of caps the latter two.	17. rhomb or lozenge	Uruk	NA	Variously explained as a grain of corn, a symbol of earth, an eye or the female vulva. Perhaps a symbol of Ishtar as goddess of prostitutes?
14. stylus (often together with another piece of writing apparatus). <i>a</i> wedge held as attribute <i>b</i> stylus proper	OB	OB	Scribal god Nabu.	18. bull	OB	LB	Consistently associated with a god whose attribute of forked lightning identifies him as a storm-god.
15. lamp	NS	LB	On Kass <i>kudurrus</i> identified as symbol of the Fire-god Nusku.	19. lion	Akk	NA	The goddess Ishtar; or sometimes the goddess Ninlil/Mullissu?
16. "omega" (or inverted "omega")	ED	LB	Variously explained as weighing-scales, the yoke of a chariot-pole, a comet, a large-horned quadruped, a headband, a wig, the bands used to swaddle a baby, or the uterus. Advocates of the last two suggestions often connect the symbol with one of the mother or birth goddesses, usually	20. horse	NA	NA	In the procession of Assyrian gods at Maltai, it is the animal of Shamash, if we may trust this identification on the basis of the winged disk (no. 2) shown surmounting his cap on one of the panels.
				21. horse head	PK	NA	?
				22. dog, usually sitting	OB	LB	Gula, goddess of healing.
				23. turtle	PH	NA	Associated with water-god Ea in Akkadian art,

<i>Symbol</i>	<i>First Attested</i>	<i>Last Attested</i>	<i>Deity Represented</i>	<i>Symbol</i>	<i>First Attested</i>	<i>Last Attested</i>	<i>Deity Represented</i>
			and alternative symbol to no. 32, on <i>kudurrus</i> .	32. goat-fish Akkadian <i>suhurmašú</i>)	NS	Sel (and revived by the Romans)	The water-god Enki/Ea (see also no. 23).
24. scorpion (as definite religious symbol)	Kass	Akk	Goddess Ishhara.	33. double lion- headed sceptre	Akk?/ NS	NA	In Kass/NA art, apparently the underworld god Nergal (the war-god Ninurta and fire-god Nusku have also been suggested, but are unlikely).
25. horned snake (as independent symbol) (Akkadian <i>bašmu, nirāhu</i>)	Akk?/ Kass	NA	The god Ishtar; or the god Ningishzida.	34. lion-headed staff	Akk	LB	The underworld god Nergal.
26. striding bird	OB	NB	On <i>kudurrus</i> labeled as symbol of messenger- god Papsukkal (or when next to high perch Shumalia, see no. 28). The main inscription on one <i>kudurru</i> refers to "the walking bird of Ellil."	35. eagle-headed staff	Kass	NA	On <i>kudurrus</i> , the god Zababa. Later adopted as one of the Neo-Assyrian military standards.
27. bird with back- turned head	OB	NB	On <i>kudurrus</i> , probably the obscure Kassite god Harbe.	36. ram-headed staff, often set on the back of No. 32	OB	Ach	Water-god Ea (at least in Kass/ NA).
28. bird on high perch	Kass	PK	The little- known twin god(s) Shuqamura (and?) Shumalia. Sometimes the perch and (striding) bird are a pair of symbols, attributed on Shuqamura and Shumalia respectively.	37. crook	OB	OB	Amurru, god of the nomads of the West.
29. bird on low perch	NA	NA	War-god Ninurta.	38. ring-post with streamer	Uruk	ED	Inanna, the later Ishtar (because it is the pictographic sign for her name). It is often depicted as a door-post for a reed enclosure.
30. (snake-)dragon, with lion's forelegs and bird's hindlegs (Akkadian <i>mušhuššu</i>)	Kass	Sel		39. ring-post without streamer	Akk	OB	Possibly associated with water-god Enki/Ea?
31. "lion-dragon," with lion's forelegs, bird's hindlegs and wings (possibly Akkadian <i>ūmu nā'iru</i>)	Akk	LB	Usually the storm-god Ishkur or Adad. On the Maltai rock reliefs three different gods stand on a similar beast, probably Assur, Sin, and Adad.	40. ring-post	Uruk	OB	As no. 38, a pictographic sign, but of unknown meaning. The OB symbol, which may be unrelated to the earlier form, is probably associated with the sun-god Shamash (an association with the storm- god Adad has also been suggested).

This notation at times might be very simple, as can be illustrated by such equations as the sun or winged sun for the sun-god (Sumerian, Utu; Akkadian, Shamash), a crescent moon for the moon-god (Nanna/Sin), a star for Inanna/Ishtar (the planet Venus), seven dots or small stars for the constellation Pleiades (of which seven are readily visible, our "Seven Sisters"), and forked lightning for the storm-god (Ishkur/Adad). (See fig. 1, nos. 1-2, 4-7.) Many other symbols are so obvious as to be readily comprehensible. We can understand why a stylus should stand for the scribal god Nabu (no. 14), a lamp for Nušku, god of light (no. 15); and a crooked stick for Amurru, god of the western nomads (no. 37). Scarcely less straightforward are the bird of Papsukkal (Ninshubur), the divine messenger of the gods (no. 26), and the dog of Gula, goddess of healing (the dog being associated with domestication and the home) (no. 22).

Sometimes the underlying "logic" is just as easily understood, even though the system of images may be slightly more involved. For example, a miter with from one to seven pairs of horns might be worn as a mark of divinity by almost any god or goddess. When such a headdress was used as a symbol grouped with other symbols, it came to be regarded as representative of the most senior god, the identity of whom changed from time to time (Anu, Enlil, Marduk, Assur). Indeed, at certain times, when the exact nature of the divine hierarchy was confused, two or three such identical headdresses might stand for the ruling pair or trinity of gods.

Other symbols, apparently less "logical," may possibly relate to a superseded function of a deity. For instance, the representation of the supreme Babylonian god Marduk by a triangular-headed spade or hoe (*marru*) might echo an original agricultural association of the deity; unfortunately, the early history of Marduk is little known. Some other symbols seem more culturally determined, although not always restricted to Mesopotamia. A bull as animal of the storm-god is very common throughout the Near East. The horse as animal of the sun-god is paralleled in ancient Greece (no. 20). Tortoise and goat-fish (Capricorn) as images for the water-god (Enki or Ea) are understandable enough, though they are more specifically Mesopotamian models (nos. 23 and 32).

Other symbols might belong to a particular deity for reasons quite likely once obvious enough, even if the "logic" might escape the modern mind. An excellent example of how a symbol might be transferred between gods in the wake of theological and political developments is provided by the dragon called Mushkhusshu (Furious Snake) in Akkadian (no. 30). The complex mythologies and associations with various gods that involved the creature have been collected and explained by F. A. M. Wiggermann. The origin of the dragon was apparently as the beast of the underworld snake god Ninazu, who in the third millennium BCE was worshiped in the city of Eshnunna (Eshnunak, modern Tell Asmar). When, in the Akkadian or early in the Old Babylonian period, Ninazu was replaced as city god of Eshnunna by the war god Tishpak (probably in origin the Hurrian storm-god Teshub), the latter took over the Mushkhusshu as his animal, while in Lagash (modern Tell al-Hiba) the beast became associated with Ninazu's son, the underworld god Ningishzida.

From Middle Babylonian times, however, possibly after Hammurabi's conquest of Eshnunna, the dragon was transferred to the new Babylonian national god, Marduk, and to his son, Nabu. The Assyrian king Sennacherib destroyed Babylon in 689 BCE. Thereafter, the Mushkhusshu is found in Assyrian art, usually as a symbol of the national god Assur, whose cult assimilated much of the mythology and festivals associated with Marduk. On Sennacherib's rock reliefs at Maltaï, the creature is seen as the mount of two deities, Assur and another god, probably Nabu. Although the "meaning" of the Mushkhusshu dragon changed, therefore, in terms of the specific deity or deities it represented, it remained fairly constant in terms of the types of gods it symbolized. Its distinctive reptilian iconography originated from its associations with the underworld and with an underworld god. By virtue of this god being the main deity of a particular city-state, the beast came to symbolize a succession of chief local and national deities and their sons.

Such transfers of a symbol from one deity to another were usually unnecessary, however, for the major gods and goddesses, while they might be known under differing Sumerian and Akkadian names and epithets, remained unaltered. In many respects, therefore, it is the continuity of

symbols over three millennia, rather than their changes, that is striking. Even in the case of the Mushkhusshu, the preservation of the image and its essential symbolism (standing for the chief god) overrode, as it were, changes in political and religious conditions on the wider scale. In this sense, the images have a kind of life and integrity of their own, quite apart from their specific “meaning” and associations at a given time. Over their long histories, moreover, they can be seen as distinctively Mesopotamian, and not, as so much else, narrowly Sumerian, Akkadian, Babylonian, Assyrian, or whatever.

The depiction of symbols of the gods reaches back into prehistory to the Uruk period, predating representations of the deities themselves. Two early historic symbols (nos. 38 and 40 in fig. 1) were short-lived, apparently because their relevance depended on their existence in pictographic script, which thereafter became obsolete. However, the majority of symbols—many originating in prehistoric times or in the Akkadian period—survived with little change in form or meaning down to the fall of Assyria and Babylonia. A few were taken into the artistic repertoire of the Persian Empire.

PORTRAITS OF THE GODS

Although some of the religious symbols, as well as scenes of temples and worshipers, are found in the prehistoric art of Mesopotamia, there are few representations of the gods themselves until the Akkadian period. At that time, especially on the intricate carvings of small cylinder seals—known as glyptic art—there is an explosion of scenes involving gods and monsters in heraldic or pseudomythical contexts. From this time on, deities are usually distinguished by wearing a horned miter, with up to seven pairs of horns (also worn by some other supernatural beings and by kings during the period in which rulers were deified, from Naram-Sin of Akkad to Samsu-ditana of Babylon). Often deities are shown sitting or standing in their shrines (sometimes upon podiums, as cult statues) or traveling in their chariots or boats (known to be the methods by which the cult statues were moved from city to city). Later, deities sometimes carry the “rod and ring” device—possibly known in Ak-

kadian as the *ḥaṭṭu* and *kippatu* (staff and loop) or as *markasu* (bond)—and may stand upon their distinctive natural or hybrid beasts. (Living gods and other supernatural beings are said, in literary accounts, to “wear,” and sometimes to “take off,” a radiant light called ME.LÁM or *melammu*, but this does not seem to be represented visually.)

On cylinder seals of the Akkadian period, groups of deities are often shown in battle, with some being killed, while certain gods are shown being executed. Groups of deities often give the impression of having no individual identities and may perhaps sometimes represent the primordial Anunnaki (the firstborn gods, who were not differentiated with personal names). Yet, specific gods of the pantheon were also depicted. Although only rarely are they identified by accompanying inscriptions, representations of Mesopotamian deities are often not difficult to name, since they can be found in contexts or hold objects appropriate to them. Although the practice is not accepted by everyone, it is usual to try to recognize individual gods iconographically, most often by their associated symbols and attributes. Identifications of deities, therefore, are often dependent upon the significance attached to the various symbols and the correct determinations of the deities they represent (fig. 1).

Yet, the case of the sun-god, for instance, demonstrates that the identification of figures in art with the principal gods of the pantheon is not always entirely straightforward. That a plurality of gods with rays rising from their shoulders may be depicted among the deities shown on cylinder seals of the Akkadian period implies either that there was more than one sun-god or that the sun-god had a close associate or associates at this time. A deity without rays may fulfill a parallel function in some scenes. It is also clear that on occasion symbols and attributes might be transferred from their “real” owner to another deity. For example, monumental reliefs flanking the main doorway to the Temple of Ninurta at Kalhu (modern Nimrud) show a god pursuing a leonine-avian beast, a “lion-dragon.” Since this is his temple, we assume that the deity represented is the war god Ninurta—perhaps, in illustration of a myth current at the time, in pursuit of the thieving bird Anzu or, in accordance with another myth concerning Ninurta, of the mon-

ster Asakku. Nevertheless, the deity carries in each hand a triple lightning symbol, more appropriate to the storm-god (fig. 1, no. 7). In an earlier version of the Asakku story, it is the storm-god Adad who defeats the monster; Ninurta here, in usurping that god's role, may also have borrowed Adad's usual symbol. Nevertheless, the case is a salutary reminder that the identification of specific deities by their associated symbols alone may have occasional pitfalls.

Notwithstanding these difficulties, some major gods often appear in scenes that can easily be interpreted. For example, the sun-god, whose upper body often emanates rays and who often carries, and presumably cuts his path with, his distinctive tooth-edged pruning saw (*šaššāru*)—a type still used in the Near East today—is regularly shown in ascending posture as the rising sun. The significance of the posture is especially clear on cylinder seals of the Akkadian period on which the god steps or climbs between two mountain peaks set between a pair of gates held open by two attendant gods. This very obviously represents the sun rising in the east and relates to the cosmological tradition of the sun-god's daily journey across the skies from the gates of heaven in the east to the parallel gates in the west through which he entered the "interior of heaven," where he spent the night. The Babylonian *Epic of Gilgamesh* refers to the twin peaks of the mountain Mashu, close by the eastern gates of heaven. Perhaps because in its path across the skies the sun is "all-seeing," Utu/Shamash was also regarded as a god of justice and truth. Therefore, he is regularly depicted enthroned in judgment upon individuals. In this aspect, the purpose of his pruning saw is described as to "cut decisions."

Beginning with seals of the Early Dynastic period, we also see the sun-god in a boat. This may represent his journeying by canal from city to city. According to one tradition, however, at variance with that mentioned above, the sun-god, after crossing the skies by day, spent the night traveling through the underworld, and it has been suggested that when he is shown in a boat, he is making his subterranean journey. On cylinder seals of the Early Dynastic and Akkadian periods, the sun-god, and sometimes other deities and men, are frequently shown in a boat with anthropomorphic prow, occasionally also

with human torso and arms, with which the man-boat can row himself. Since the human head sometimes wears the horned cap of divinity, the vessel may be a boat god—perhaps, as has been suggested, the minor god Sirsir.

Enki (Akkadian, Ea) was the god of the underground freshwater ocean called Apsu (Absu, Abzu) and was associated with wisdom, crafts, and magic. In the art of the early periods, he is usually depicted with water issuing from his shoulders; sometimes little fish swim along the streams. The god may be shown sitting in his shrine entirely surrounded by channels of water or receiving personages introduced by his minister, the double-faced god Isimud/Usmû. A common scene on cylinder seals of the Akkadian period shows a bird-man being brought before the enthroned water-god. This has been thought by some scholars to depict an episode of the myth of the Anzu-bird and his theft of the Tablet of Destinies.

The storm-god, known in Sumerian as Ishkur and in Akkadian as Adad, can often be recognized by the forked lightning (fig. 1, no. 7) held in one or both hands and by his beast, either the creature usually called (somewhat incongruously) a "lion-dragon" or "lion-griffin" (fig. 1, no. 31) or a bull (fig. 1, no. 18). Similarly, the scribal god Nabu can be recognized only by his symbols, the wedge (or stylus) (fig. 1, no. 14) and the Mushkhusshu dragon—which, however, he shares with other gods (fig. 1, no. 30).

The most important goddess of ancient Mesopotamia in all periods was Inanna (Sumerian), or Ishtar (Akkadian). As personification of the planet Venus, the goddess may be shown in astral aspect, surrounded by a nimbus of stars. As a goddess of war, she can be armed to the hilt, sometimes with sexual symbolism in her dress and posture. In Neo-Assyrian art, she is often depicted completely nude or nude from the waist down, more blatantly revealing her role as goddess of physical love and prostitutes. She wears the horned cap of divinity and is often winged. Some Old Babylonian cylinder seals and clay plaques show a frontally nude woman; she does not have wings or wear the horned cap, but she stands on a podium, as if a cult statue, and sometimes seems to be receiving worship. Some scholars have identified her as the goddess Shala or as *baštu* (dignity) personified, but she

is more likely Ishtar, in a guise foreshadowing her winged and naked or half-naked aspect in Neo-Assyrian art. Also of Isin-Larsa or Old Babylonian date, a more demonic aspect of the naked winged deity gives her the talons of a bird. This may be Ishtar in the underworld, as recounted by the myth of her descent there and her subsequent replacement by her lover, the shepherd god Dumuzi. Dumuzi is apparently not shown in art, unless Ishtar and he are the sexually involved lovers shown on model clay beds of the Isin-Larsa and Old Babylonian periods. (See figures in "Erotic Art in the Ancient Near East" in Part 10, Vol. IV.) However, even if such figurines do have a cultic relationship to the "sacred marriage" of Inanna and Dumuzi, they more likely depict the king and priestess representing Inanna and Dumuzi (if an actual ritual of marriage did take place) rather than the divine couple themselves.

An alternative interpretation of the demonic aspect of the naked winged goddess would make this personage Ishtar's sister, Ereshkigal, queen of the underworld, who seems otherwise to be unrepresented in art. It may be that the image of the goddess of death was considered too dangerous to depict. If so, the same concerns did not extend to her consort in the underworld, the god Nergal. On Old Babylonian cylinder seals, he is apparently the god who wears a long open-fronted robe and has one leg uncovered and advanced, often with his foot on a hillock or on the squirming body of a man. The god usually carries a scimitar and a double or single lion-headed (or rather, in view of the upright ears, "lion-demon"-headed) staff (fig. 1, nos. 33 and 34). Nergal may also be represented by some clay figurines of Isin-Larsa or Old Babylonian date that show a bearded god shrouded and lying as if in a sarcophagus.

Another underworld god was Ningishzida. As he was the personal deity of Gudea, ruler of Lagash, he is depicted in the art of that time—for example, on Gudea's own cylinder seal, where the god introduces the ruler to the water-god Enki. Ningishzida is represented with horned Bashmu snakes (the horned viper *Cerastes cerastes*) rising from his shoulders (see fig. 5, no. 4).

In Neo-Assyrian and Neo-Babylonian art, there are two evil underworld gods who are com-

monly represented (fig. 2). Pazuzu has a rather canine face with abnormally bulging eyes, a scaly body, snake-head penis, the talons of a bird, and, usually wings. Although specifically described as evil and as king of the evil wind demons, he seems also to have been a protector against pestilential winds—and a counter to the evil goddess Lamashtu, daughter of the great sky-god Anu, for in art he is shown forcing Lamashtu back to the underworld. Pendants of Pazuzu, or more usually of his head only, were placed around the necks of women in labor, and amulets of the god were placed in houses, for to Lamashtu were attributed both miscarriage and infant death. Lamashtu is represented (and described in rituals against her) as lion-headed, with upright (donkey's?) ears, a hairy body, and the talons of a bird. A piglet and a whelp suckle at her breasts. Her distinctive animal is the donkey, and she rides in her boat along the river of the underworld.

A pair of twin gods also associated with the realm of the dead were Lugal-irra (identified with Nergal in a late tradition) and Meslamtaea, perhaps originally the gatekeepers of the underworld. Apparently, they are represented in Neo-Assyrian art by a pair of gods identical in appearance, each carrying a double-headed ax



Fig. 2. Detail from a cast copper or bronze Neo-Babylonian plaque depicting the evil goddess Lamashtu as she flees along the river of the underworld pursued by Pazuzu and tempted by various offerings. The plaque was probably used as an amulet. See "Witchcraft, Magic, and Divination in Ancient Mesopotamia" later in this volume for another view of Pazuzu. LOUVRE MUSEUM, PARIS

and a mace. They were regarded as protectors, especially at doorways.

Another close pair of gods who protected doorways and were invoked against sorcery were Lulal and La-tarāk. They seem to have had very different forms, for they may be represented in Neo-Assyrian and Neo-Babylonian art as, respectively, a human-looking god with raised fist and a lion-headed, human-bodied figure cloaked in a lion's pelt and carrying a whip (fig. 3). Pazuzu, Lamashtu, and, if correctly identified, Latarak



Fig. 3. Detail carved on a monumental stone relief from the palace of King Tiglath-pileser III of Assyria (reigned 744–727 BCE) at Kalkhu (Nimrud) showing a figure in lion pelt with lion's head mask, perhaps in imitation of the god Latarak, who may have taken this form. BRITISH MUSEUM, LONDON

are examples of deities with animal features, a common phenomenon in Egyptian religion but extremely rare in Mesopotamia.

A group of identical gods were the protective Sebittu (Sumerian, Iminbi), meaning "Seven." In the Neo-Assyrian period they were counted among the main gods of the pantheon, but their depiction was rare; there is evidence that the iconography was new and presented some difficulties even as late as the reign of Assurbanipal (668–ca. 627 BCE). A monumental relief from that king's palace on Kuyunjik at Nineveh shows three of the group (an adjoining relief, now lost, probably depicted the other four). The gods wear tall cylindrical hats and long tunics. According to a text prescribing figurines for burial about a house in a rite of protective magic, each of the Sebittu should carry an ax and a knife as well as a bow and a quiver. On the stone carving, however, the long bows have been erased in favor of the axes and knives.

Gula, goddess of healing, is represented in art as a seated female wearing a heavy, flounced dress and a tall hat, her hands held in front of her face, presumably in an attitude symbolic of the healing power of her hands. Usually her distinctive animal, the dog (fig. 1, no. 22), sits on her farther side. The seated goddess can also be shown without her dog, and a caption on one carving that so depicts her confirms that she is Gula.

An important group of goddesses—not always clearly distinguished one from another—were those associated with birth and motherhood. Some clay plaques of the Isin-Larsa or Old Babylonian period depict a goddess with newly born babies, perhaps specifically Nintu, "Lady of Birth." She holds a baby in her arms; another may be strapped at her back. A second pair of babies squat on the ground, one at either side, beneath omega motifs (fig. 1, no. 16)—so called by some scholars because of the coincidental resemblance to the Greek letter omega—as if they were newly emerged from the womb (fig. 4). It has been suggested that each of these emaciated human forms might actually represent a demonized stillborn fetus, known as a *kūbu*, which was thought to inhabit the underworld and to be responsible for certain illnesses of the living.

Obvious deities of vegetation are rare in Meso-



Fig. 4. Baked-clay plaque portraying a goddess holding babies and flanked by newborn babies, possibly miscarried fetuses, Isin-Larsa or Old Babylonian period. LOUVRE MUSEUM, PARIS

potamian art. Some cylinder seals of the Akkadian period show at least two different gods and a goddess with stalks of vegetation emerging from the body. Sometimes they are part of a group of deities, one of whom carries a plow. The main such god, therefore, may be Ningirsu, whose symbol could be a plow (fig. 1, no. 9), or Dagan (biblical Dagon), regarded in one tradition as inventor of the plow. Sometimes, however, the main deity is a goddess, possibly Dagan's wife, Shala. It is likely that Shala was an agricultural deity, for she was represented symbolically by a barley stalk (fig. 1, no. 10); in late, Hellenistic representations, as the constellation Virgo, she is shown holding this symbol. Apart from the plow and barley stalk, there is one other common agricultural symbol, the *marru* of Marduk (fig. 1, no. 8). In addition, a very rare Kassite symbol has been interpreted as a win-

nowing fan viewed from beneath, and attributed to the goddess Bau.

A large stone relief, probably dating to the second half of the second millennium BCE, shows a god with fertility symbols: he holds branches with fruits on which goats feed; his lower body is in the form of a mountain; and he is attended by goddesses with vases from which flow streams of water. Since this relief was found within the Temple of Assur in the city of Asshur, it has been suggested that the god may be an early representation of Assur. However, since the block was discovered adjacent to a well, it is also possible that the deity is Ea, lord of the watery Apsu, or, in view of the flowing vases and mountain symbolism, the storm-god Adad, who is associated with fruitful rain and mountain streams.

It is not always the most important gods who are most commonly depicted. Some major deities, such as Enlil/Ellil or An/Anu, are scarcely, if ever, shown. The moon-god Nanna/Sin is only rarely shown, sometimes standing in a crescent. It is not clear whether Ereshkigal, queen of the underworld, or the underworld shepherd god Dumuzi are represented in art, but if they are, their depiction is rare. Gods who became the chief deities of the state, such as Marduk in Babylonia and Assur in Assyria, had to be represented visually, but even in these cases their iconography remained rather indistinct. Assur, in particular, borrowed heavily from other gods. By contrast some comparatively minor deities were often depicted, especially if their images were thought to be protective and beneficial. The image of a deity represented as a dwarf, originating in Egypt as the prankster god Bes (Bisu), spread widely in the Near East, including Mesopotamia, where he may have been known as Pessu.

Protective gods called *lahmū* (hairy ones) are represented in most periods in Mesopotamia—at least from the Second Early Dynastic period on, with antecedents in the Uruk period—as wild-looking men (in the earlier periods usually nude or almost nude), with long hair, often with four or six distinctive giant curls. The protective goddesses called in Sumerian LAMMA (Akkadian, *lamassu*) served as intermediaries between major deities and lesser deities or humans. In art from the Neo-Sumerian period on, they are shown wearing long, often flounced

skirts and with one or both hands raised in supplication.

Ninshubur (Papsukkal), minister and messenger of the gods, is represented in the Neo-Assyrian and Neo-Babylonian periods by figurines of unbaked clay buried in boxes beneath the daises of the cult statues in temples. He wears a long robe and carries a long staff. Often there is a square base, so that the figurine can stand, as if it were a miniature cult statue serving the full-size image of the deity of the temple.

Certain deities were popular in art only for a comparatively short time. A god wearing long robes and a distinctive hat and carrying a crook in one hand who can be associated with a gazelle is seen on cylinder seals of the Old Babylonian and Kassite periods. This has convincingly been shown to be Amurru (in Sumerian, Martu), the god personifying the nomadic desert peoples (Amorites) who originated in the west and gradually moved into the Mesopotamian plain, eventually occupying lands to the east. The period in which the figure is found in art corresponds roughly with the flourishing of Amurru's cult in Babylonia. More difficult to identify is the "god [or figure] with mace," also restricted to Old Babylonian and Kassite art. He wears a rounded cap and knee-length robe, and has a distinctively splayed beard. His head and lower body are shown in profile, but his torso is twisted somewhat to the front, one arm loose by his side and the other bent at the elbow with the hand held close to the lower chest. In this hand, he often, but not always, carries a mace. Various identities for the figure have been proposed, but none has been conclusive, and it is not clear whether the representation is of a god or a king (or a deified king).

MONSTERS AND DEMONS

That there was a belief in ancient Mesopotamia in a class of supernatural (or at least fantastic) beings ranking beneath the level of gods and goddesses seems to be evidenced by the writing of the names of certain hybrid creatures and personages without the use—or without the consistent use—of the "divine determinative," the prefix indicating divine status, and in art by the

lack of the horned headdress of divinity for many (though not all) of these beings. Though not entirely satisfactory because of its present-day exclusively malevolent connotations, the term "demon" (in its original Greek sense meaning simply "supernatural being") has generally been used as an approximate translation of such terms as the Sumerian MAŠKIM and the Akkadian *rābišu*, which can refer to, and be qualified as, a good or bad demon. (The word "spirit" seems less appropriate because of the very concrete terms in which these beings are described and depicted.) In studies of Mesopotamian art, however, the term "demon" is generally used for any upright human-bodied hybrid, and "monster," for an animal combination on all fours.

Edith Porada proposed a five-phase chronological scheme for the general development of monsters and demons in Mesopotamian art up to the Persian period. She regarded the late Ubaid and Uruk periods as a formative phase, when elements of different animals were first combined into hybrid creations. In the art of the Akkadian period, such hybrids, representing evil beings, are shown being captured and apparently judged, which is seen as a mark of optimism and stability. Old Babylonian art, at least in cylinder-seal designs, shows some attempt at balance in the mixing of motifs of both good and bad connotations for mankind. In the Mitannian, Kassite, and Middle Assyrian periods, there is a transformation from the Old Babylonian emphasis on people to the imagery of animal-headed hybrids. Lastly, Neo-Assyrian and Neo-Babylonian art was for the first time able to depict really evil gods and demons. This was not, however, because they were no longer able to endanger humans (as Porada stated it), for Lamashtu certainly did bring danger. Rather, these evil beings were depicted in spite of, and as a counter to, these dangers—from what were apparently quite newly conceived malevolent creatures. About this time, as we know from literary accounts, there was a new concept of the afterlife and of an underworld populated by frightful hybrid creatures of various kinds. (For a discussion on "ghosts" see "Death and the Afterlife in Ancient Mesopotamian Thought" later in this volume; for a discussion on "demons" see "Witchcraft, Magic, and Divination in Ancient Mesopotamia" later in this volume.)



Fig. 5. Principal apotropaic figures (representations of beneficent gods and demons, and natural and fantastic animals). See the table for precise identifications.

TABLE to Accompany Figure 5
Principal Apotropaic Figures

Abbreviations as in table accompanying fig. 1

Figure	First Attested	Last Attested	Proposed Identity
1. human-headed winged or wingless bull	ED	Ach	Commonly identified as <i>lamassu</i> / <i>šēdu</i> (or <i>aladlammû</i>). The wingless form may sometimes be a form of <i>kusarrikkû</i> "bison" (but cf. no. 9).
2. human-headed winged lion	MA	NA	Commonly identified as <i>šēdu</i> (or <i>aladlammû</i>).

Figure	First Attested	Last Attested	Proposed Identity
3. dog, sitting or standing (cf. Fig. 1, no. 22)	OB	LB	<i>kalbu</i> "dog" (as protective type).
4. horned snake (see Fig. 1, no. 25)	Akk?/ Kass	NA	<i>bašmu/ušumgallu</i> "poisonous snake."
5. (snake-)dragon (= Fig. 1, no. 30)	Akk	Sel	<i>mušhuššu</i> "furious snake."
6. "lion-dragon" (= Fig. 1, no. 31)	Akk	LB	Possibly <i>ūmu nā'iru</i> "roaring weather-beast."
7. goat-fish (= Fig. 1, no. 32)	NS	Sel	<i>suḫurmašû</i> "carp-goat."
8. long-haired "hero"	Uruk/ ED	Islamic	<i>lahmu</i> "hairy." Originally associated with water-god Enki/Ea, later apparently transferred to Marduk (often holds Fig. 1, no. 8) or protective in a general way.
9. bull-man	ED (II)	Ach	<i>kusarrikkû</i> "bison(-man)." Originally associated with sun-god Shamash.
10. scorpion-man	ED III/ Akk	Sel	<i>girtablullû</i> "scorpion-man." Associated with sun-god Shamash.
11. "lion-humanoid" (upright leonine man)	Kass	Sel	<i>uridimmû</i> "mad lion" (literally "mad canine").
12. "lion-garbed figure" (human-bodied figure in a lion's pelt and mask)	NA	NA	Possibly the god Latarak (and human imitations).
13. lion-demon	Akk/ OB	Sel	<i>ugallu</i> "big weather-beast."
14. lion-centaur	MA	NA	<i>urmahlullû</i> "lion-man."
15. merman and mermaid	NS OB	Sel LB	<i>kulullû</i> "fish-man." <i>kuliltu</i> "fish-woman" (probably (?). influencing Greek and European art)
16. "fish-garbed figure" (human-bodied figure in a fish-skin)	Kass	Sel	<i>apkallu</i> "sage" (in fish-guise).
17. griffin-demon	MA (with antecedents from ED III?)	Sel	<i>apkallu</i> "sage" (in bird-guise).
18. anthropomorphic god with bucket and cone	MA	NA	Possibly <i>apkallu</i> "sage" (in human guise).

Figure	First Attested	Last Attested	Proposed Identity
19. anthropomorphic goddess with ring of beads	NA	NA	It has been suggested that this is connected with Narudu, sister of the Sebittu, or with the goddess Ishtar.
20. anthropomorphic god with axe and dagger	NA	NA	Sebittu "Seven (gods)."
21. anthropomorphic god with axe and mace	NA	NA	The netherworld-god Meslamtaea; an identical pair may be the twin gods Meslamtaea and Lugal-irra.
22. smiting god	NA (with antecedents from OB?)	LB	Possibly the god Lulal.
23. bowlegged dwarf	NA (with OB antecedents?)	LB	Ritual dancer(?)/demon like Egyptian Bes.
24. gigantic monstrous human figure	OB	LB	The demon Khuwawa/Khumbaba.
25. canine/leonine demon	NA	LB	The god Pazuzu.

It was doubtless in response to the dangers of this new plethora of evil beings that the apotropaic figures—representations of beneficent gods and demons, natural and fantastic animals—were first assembled into a definite series in the Neo-Assyrian period, especially as protectors of buildings. The types represented in the monumental palace sculpture closely correspond to the small clay images buried in the foundations. In origin, however, many of these figures were much more ancient, and when new types were added, they were modeled upon earlier types or attributed an artificial antiquity—as with the ancient "sages" (*apkallus*), who, according to tradition, lived at a time before the Flood (see fig. 5, nos. 16–18).

In contrast to the evil hybrids, who were very rarely portrayed (and whose descriptions suggest they were often ill-defined visually), the protective deities, demons, monsters, and animals were numerous in art (though a restricted series) and iconographically well defined. The series of protective figures continued into the art of the Achaemenid period and even into Sel-

euclid times, when the same repertoire of figures occurs on stamp seals, apparently as a separate tradition for the most part not influencing, and uninfluenced by, Hellenistic iconography.

MYTHS AND LEGENDS IN ART

According to David Bynum, "Mesopotamian glyptic imagery was cultic and ritual, not mythic" (*The Daemon in the Wood* [1978], p. 227). However, although the scenes carved on seals include few episodes that unequivocally parallel mythical and legendary literature, such episodes are not entirely unknown. Moreover, other scenes that appear mythical may represent episodes from narrative myths whose literary versions (if they were ever written down) are now lost.

The best known and perhaps one of the most obvious graphic illustrations of a well-known story is contained in scenes thought to represent episodes of the story of Etana. According to Sumerian tradition, after the Flood, hegemony over all Sumer fell to the city-state of Kish and to its first king, Etana. The Sumerian kinglist describes Etana as "a shepherd who ascended to heaven." The main details of the story are filled out by what has been recovered of the Akkadian legend. Etana's wife suffered from miscarriages, and so the king had no successor. He was therefore searching far and wide for "the plant of giving birth," which had been revealed to his wife in a dream. The scene shifts, however, to a faraway mountain region and to a *šarbatu* tree where an eagle and a serpent have their nests. One day the eagle devours the serpent's young. Bent on revenge, the serpent, on advice from the sun-god Shamash, hides in the stomach of a dead ox, and when the eagle arrives to feed on the carcass, catches the bird, breaks its wings, and hurls it into a deep pit from which there is no escape unaided. The wandering Etana, however, chances on the pit, rescues the eagle, and casts for it new wings of copper. The location of the birth-giving plant is then revealed in dreams: it lies in heaven. In gratitude, the eagle agrees to carry the king there.

Etana and the eagle reach the highest part of heaven. Apparently captivated by the experience, they continue to soar even higher. As the

earth begins to disappear from view, Etana loses his nerve, and the pair plunge downward toward the earth. The eagle, it appears, screams out to Ishtar, and their fall is broken by a pile of wood. Here the recovered text breaks off; when the narrative resumes, it is clear that the pair are again on their way toward heaven. Here they find the house of the goddess. The text is fragmentary, but we assume, as presaged by Etana's earlier dream, that the goddess's lions rise up at them. The goddess then appears as a terrifying figure of light. The plant of giving-birth must have been acquired soon afterward. The rest of the legend is fragmentary, but we know from the Sumerian kinglist that Etana had a son and successor named Balikh.

The story of Etana's flight on the eagle has been widely accepted as finding visual expression in a few related scenes on cylinder seals of the Akkadian period, some two hundred to three hundred years earlier than the earliest written version of the legend so far recovered. The seals show a largely pastoral setting, always including one or more shepherds (recalling the description of Etana as a shepherd), one or usually a pair of dogs, a herd of goats near a pen, and one or two men using a large vessel to churn butter or make cheese. Sometimes another man holds a large tablet. Flying in the sky—or perhaps plunging toward the ground—is a large bird with outstretched wings, carrying a bearded man. The dog(s) always sit beneath the flying couple, looking up at them, and the heads of the goats and shepherd(s) are usually also turned skyward.

On at least one seal, another episode in the story is also represented, with the tree in which the eagle nests. However, in this case, the eagle shares the tree, not with a serpent or the serpent's offspring, but with another small animal, perhaps a lion cub, while adult lions (or dogs) stand on the ground beneath. Although lions and a lion cub(?) replace the serpent and its young of the literary version (which, however, does refer to lions as beasts of the goddess in heaven) and although there are other elements in the iconography not mentioned in the legend as it has been recovered, the presence of the airborne man and eagle together on this one seal with the eagle in a tree so closely parallels the literary version that the interpretation of these scenes as in some way relating to the Etana story seems

more than likely. (A scene from the legend of Etana appears in "Understanding Ancient Near Eastern Art: A Personal Account" in Part 11, Vol. IV.)

Another literary narrative that, almost beyond dispute, is reflected in art is the tale of the hero Gilgamesh, legendary king of Uruk, preserved in five separate Sumerian poems and in the famous Babylonian epic. (See "Epic Tales from Ancient Sumer: Enmerkar, Lugalbanda, and Other Cunning Heroes" and "The Gilgamesh Epic: A Masterpiece from Ancient Mesopotamia," both in Part 9, Vol. IV.) Two episodes narrated in two of the Sumerian poems and detailed in the epic are reflected in the art, mostly of the second and first millennia BCE. One scene is the slaying by Gilgamesh and his partner, Enkidu, of the demon known in Sumerian as Khuwawa and in Akkadian also as Khumbaba, the divinely appointed guardian of the Cedar Forest. The graphic scene—first shown in the glyptic art of the Akkadian period and later on cylinder seals, stamp seals, clay plaques, metal bowls and ivory-work—involves two human-looking figures attacking a demon. Each uses one foot to pin the demon down, and one of them is often shown severing its head with a sword, as described in the Sumerian narrative. Sometimes the slaughtered demon has a face recognizable as that of Khuwawa/Khumbaba (from figurines inscribed with his name), although often this form of the demon is replaced by another stock type, such as (confusingly) the figure with large curls, who is properly a *lahmu* god.

In Middle Assyrian provincial art the scene of the death of Khumbaba may accompany a scene of a human figure, apparently a woman, riding on the back of an eagle, recalling the Etana story. Especially since both the Etana and the Khumbaba scenes are drawn from their earlier appearance in the Akkadian period, the association of the two episodes in Middle Assyrian art may suggest some melding of the two traditions. Although this is not reflected in the contemporary literary versions of the stories, a later classical source does draw on the Etana tradition in connection with Gilgamesh, describing the rescue of the baby Gilgamesh by an eagle. In any event, the juxtaposition of the two scenes in art suggests that they were thought to belong together, and so supports an interpretation of both scenes as mythic.

A separate Sumerian poem tells how Gilgamesh and Enkidu defeated and killed the Bull of Heaven sent by the goddess Inanna. This is incorporated into the Babylonian epic as an episode following the death of Khumbaba. Back in the city of Uruk, Ishtar (Akkadian name of Inanna) proposes marriage to Gilgamesh, but he rejects her, reproaching her for her long list of abandoned lovers and refusing to become the latest one. The enraged goddess then sends the Bull of Heaven against Gilgamesh, but with Enkidu's help he is able to dispatch the beast. The event is clearly shown on cylinder seals of the second and first millennia BCE. The scene on one seal shows not only the scene of slaughter but also Ishtar looking on aghast, apparently attempting physically to restrain the heroic pair from striking the fatal blow.

A number of scholars have long attempted to see other episodes of the Gilgamesh story in Mesopotamian art, but these attempts are in some cases now known to be incorrect, while others still have little positive evidence to recommend them. For example, on their first meeting, Gilgamesh and Enkidu wrestle one another; therefore, scenes known in almost all periods showing a pair of wrestlers (or several pairs, which could be taken as sequences in the same bout) are sometimes regarded as the two contesting heroes. However, there is no clear indication of this.

Then there is in the *Epic of Gilgamesh* a visit by Gilgamesh to Ut-napishtim, the Babylonian Noah, who relates to him the story of the Flood. Therefore, human-looking figures standing or sitting in a boat, particularly common on cylinder seals of the Early Dynastic and Akkadian periods, have been interpreted by some as Gilgamesh and Ut-napishtim, or as Gilgamesh and Ut-napishtim's boatman, Urshanabi (who does ferry Gilgamesh in the epic). That the iconography does not fit the later narrative exactly (for example, because on seals the number of figures in the boat varies) cannot of itself be seen as refuting the identification. However, since the Flood story in Sumerian was an independent poem, not involving Gilgamesh, and the oldest known version of the epic belongs to the Old Babylonian period, the suggestion remains dubious. A more definite statement can be made about scenes involving a hero with large curls

and a bull-man, especially commonplace in the animal contest scenes of glyptic art from the Early Dynastic to the Kassite period. The pair have popularly been taken to represent Gilgamesh and Enkidu, respectively, but this idea is now discredited, as they can be identified as the *lahmu* (hairy one) and his associate *ku-sarikku*.

Graphic renderings supposedly of other myths and legends remain equivocal. One suggestion is that scenes of battling deities on Akkadian period cylinder seals may represent the struggle between the primeval forces of chaos and the younger gods of order, in some way related to the narrative of the Babylonian Creation Epic. Text and picture, however, cannot be equated in any precise way. As mentioned above, a demonic aspect of Ishtar—if the figure is correctly so identified—may be influenced by the story of the goddess's descent to the underworld.

As Thorkild Jacobsen has pointed out, in the Sumerian poem Inanna took with her to the underworld the cap of divinity, her wig, and rod and ring, and a necklace of lapis lazuli, while lions and mountains were symbolic of the goddess. As she went through the successive gates of the underworld, she removed these and other items of her clothing until she stood naked. The owls and her own owl's talons on a famous clay plaque may indicate her presence in the underworld—in darkest night, as it were. This is an intriguing idea. However, no actual scenes from the myth of the goddess's descent to the realm of the dead can at present be recognized in art. The fish-sages shown on one cylinder seal, if they indicate a location at all and are not simply protective, would be more at home in the watery Apsu than in the underworld.

Some have attempted to relate a group of Akkadian cylinder seals showing a bird-man being brought before the water-god to an episode in the myth of the bird Anzu (or, as he was probably called in Sumerian, Imdugud). The wicked bird stole the Tablet of Destinies, the document of divine law investing its holder with the power to determine the destinies of the world. Eventually the Anzu bird was slain by the god Ninurta, who restored the tablet to its lawful owner. Although not attested until the Old Babylonian period, in some form this myth must be much older, as textual and iconographic sources from the Early



Fig. 6. Imdugud bird pendant made of lapis lazuli, copper, bitumen, and gold, recovered from Mari, Early Dynastic period. SYRIAN NATIONAL MUSEUM, DAMASCUS

Dynastic period show. In the Babylonian version of the story, the god from whom the bird stole the tablet is Ellil (Enlil), but in a Sumerian version of the tale it is the water-god Enki who is robbed of the document. Quite probably this was the version current at the time the Akkadian cylinder seals were cut. Moreover, there is no necessary obstacle to presupposing a variant tradition, not known textually, of the capture rather than the death of the bird and his judgment by the water-god, since Imdugud is regarded as one of the so-called Slain Heroes, sometimes known as the Captured Heroes.

Nevertheless, there is a problem in seeing the glyptic scenes as an episode from the myth, for Imdugud/Anzu is described as lion-headed or as having a beak, implying a bird's head—itself inconsistent, but in neither case suggesting a human head and body. Moreover, a lion-headed bird is known in Early Dynastic iconography, and this must be Imdugud (fig. 6), although this form is not known later and the creature must thereafter have been visualized differently.

A scene that has been thought to represent

Ninurta's defeat and (in this case) the killing of the Asakku monster is the rare scene of a god dispatching a solar-headed(?) cyclops shown on an Old Babylonian clay plaque (fig. 7). The cyclops, however, appears to have his hands tied behind his back, and the scene looks more like a judicial execution, perhaps related to scenes on Old Babylonian cylinder seals of the strangulation of a human-headed god with hands tied behind his back, by a god very similar to that of the plaque (with a bow slung over his shoulder).

As we know from occasional textual references, the early Sumerian myth of the killing of Imdugud by Ninurta (or by Ningirsu) was one of a number of stories, their details now lost, of the god's capture or slaughter of a series of monsters known collectively as the Captured Heroes or Slain Heroes—tales possibly foreshadowing the classical labors of Herakles. The defeated creatures included the Snake (or



Fig. 7. Terra-cotta plaque showing a god killing a cyclops. The plaque was found at Khafaje and dates to the Old Babylonian or Isin-Larsa period. The scene has been interpreted as Ninurta's victory over the monster Asakku. IRAQ MUSEUM, BAGHDAD

Dragon), the Palm Tree King, the Gypsum, the Strong Copper, the Kuli-ana, the *magillum* boat, Lord Sama-ana, the Bison-Bull, the Six-headed Wild Ram, and the Seven-headed Snake (or Dragon). At least the last of these monsters (perhaps the same as the Mushmakku, or "Distinguished Snake," also said to have seven heads) is depicted in Early Dynastic art, on cylinder seals and other items, in some cases confronted by the conquering god (fig. 8). This case alone would seem to demonstrate that there are certainly mythical episodes in Mesopotamian art for which written narratives have not been recovered and thereby further serves to emphasize the richness and variety of Mesopotamian mythical traditions.

In some cases where we do not have identifiable episodes from Mesopotamian myths, we can nevertheless identify the distinctive iconographies of individual characters, and thereby reconstruct, after a fashion, how a mythical epi-

sode might be visualized. We can imagine, for example, the defeat by Marduk (or, in the Assyrian version, Assur) of the hybrids created by the monster Tiamat, in the Babylonian *Creation Epic*. There were eleven creatures in all, of which eight can be identified in art: the Mushkhusshu, the Scorpion Man, the Great Weather Beast (Lion Demon), the Mad Lion, the Hairy One, the Bison (Bull Man), the Fish Man, and the Bashmu Snake.

CONCLUSION

This review has necessarily been restricted to a part of the religious art of ancient Mesopotamia: the supernatural and heroic world of deities, demons, and mythical and legendary figures. It has passed over, for example, much of the varied iconography of cult, ritual, and the temple. Nev-



Fig. 8. Engraved shell inlay plaque showing the god Ninurta (or Ningirsu?) as he combats the seven-headed dragon Mushmakku, dated to the Early Dynastic period. LANDS OF THE BIBLE ARCHAEOLOGY FOUNDATION, JERUSALEM

ertheless, it is hoped that some impression has been given of the rich tradition of religious themes in the art of ancient Mesopotamia and that, against the literality of the Psalmist, quoted as the epigraph, we have shown that the idols of these ancient peoples (mostly, as they survive, of clay and stone rather than of silver and gold) do have voices to speak, if we have the eyes and the ears to see and to hear.

BIBLIOGRAPHY

General

JEREMY BLACK and ANTHONY GREEN, *Gods, Demons and Symbols of Ancient Mesopotamia: An Illustrated Dictionary* (1992), is an up-to-date review of many aspects of Mesopotamian religion and religious art, written for the non-specialist and well illustrated with line drawings by Tessa Rickards. The entries on hybrid figures are largely based on ANTHONY GREEN, "Mischwesen. B. Archäologie" (in English), in *Reallexikon der Assyriologie*, vol. 8. See also ANTHONY GREEN's "Mesopotamia. V. Religion and Iconography," in *The Dictionary of Art*, edited by J. SHOAF TURNER, which includes more discussion of method in the study of Mesopotamian iconography and of inscriptions accompanying works of art.

Symbols and Attributes

Many of the divine symbols are discussed with references in URSULA SEIDL, *Die babylonischen Kudurru-Reliefs: Symbole mesopotamischer Gottheiten* (1989), from *Baghdader Mitteilungen* 4 (1968), with a new addendum as pp. 221–235; for discussion of the symbols, see especially pp. 97–211, and for additional references to later works, see pp. 229–232 of the book. The main conclusions are also summarized in "Göttersymbole und -attribute. A. Archäologisch. I. Mesopotamien," in *Reallexikon der Assyriologie*, vol. 3, pt. 7 (1968). An older work, still providing the only synthesis on many other symbols (excluding animals and hybrids), and with lengthy discussions of the evidence, is ELIZABETH DOUGLAS VAN BUREN, *Symbols of the Gods in Mesopotamian Art* (1945).

For the weapons used as attributes of the gods, see TOWFIQ SULAYMAN, *Die Entstehung und Entwicklung der Götterwaffen im alten Mesopotamien und ihre Bedeutung* (1964). See also A. ABOU ASSAF, "Die Ikonographie des altbabylonischen Wettergottes," *Baghdader Mitteilungen* 14 (1983).

Gods and Goddesses

For scenes of battling gods on Akkadian period cylinder seals, see ELIZABETH DOUGLAS VAN BUREN, "How Representations of Battles of the Gods Developed," *Orientalia* n.s. 24 (1955). The iconographies of the major deities will receive detailed treatment in E. A. BRAUN-HOLZINGER, *Ikonographie mesopotamischer Götter und ihrer Begleiter* (forthcoming).

Demons, Monsters, and Minor Protective Deities

DESSA RITTIG, *Assyrisch-babylonische Kleinplastik magischer Bedeutung vom 13–6. Jh. v. Chr.* (1977), collects and discusses foundation figurines, mainly from published sources up to 1973. For the figures in Assyrian monumental sculpture, see DIETER KOLBE, *Die Reliefprogramme religiös-mythologischen Charakters in neu-assyrischen Palästen: die Figurentypen, ihre Benennung und Bedeutung* (1981). The identifications offered in these and other works are superseded by those of the excellent thesis of F. A. M. WIGGERMANN, *Mesopotamian Protective Spirits: The Ritual Texts* (1992). The chronological scheme for the development of monsters and demons in pre-Achaemenid art is proposed by EDITH PORADA, in *Monsters and Demons in the Ancient and Medieval Worlds: Papers Presented in Honor of Edith Porada*, edited by ANN E. FARKAS, PRUDENCE O. HARPER, and EVELYN B. HARRISON (1987). Many apotropaic figures on Seleucid period stamp seals are catalogued in R. WALLENFELS, "Sealed Cuneiform Texts from Hellenistic Uruk" (Ph. D. diss., Columbia University, 1989).

Mythical and Legendary Compositions

See in general ANTHONY GREEN, "Mythologie. In der mesopotamischen Kunst" (in English), in *Reallexikon der Assyriologie*, vol. 9, and "Myths in Mesopotamian Art" in *Sumerian Gods: Papers in Memory of Thor-kild Jacobsen*, edited by IRVING FINKEL and MARK GELLER (forthcoming); HENRI FRANKFORT, "Gods and Myths on Sargonid Seals," *Iraq* 1 (1934), and *Cylinder Seals: A Documentary Essay on the Art and Religion of the Ancient Near East* (1939); MARIE THÉRÈSE BARRELET, "Étude de glyptique akkadienne: L'imagination figurative et le cycle d'Ea," *Orientalia* n.s. 39 (1970), esp. pp. 235, 249–250; EDITH PORADA, "Introduction" to *Ancient Art in Seals*, edited by EDITH PORADA (1980); PIERRE AMIET, "The Mythological Repertory in the Cylinder Seals of the Agade Period (c. 2335–2155 B.C.)," in *Ancient Art in Seals*, edited by EDITH PORADA (1980), a convenient summary in English of Amiet's views; DOMINIQUE COLLON, *First Impressions: Cylinder Seals in the Ancient Near East* (1987).

Ancient Mesopotamian Religious Iconography

On the iconography associated with the Gilgamesh legends, see, most reliably, W. G. LAMBERT, "Gilgamesh in Literature and Art: The Second and First Millennia," in *Monsters and Demons in the Ancient and Medieval Worlds*, edited by ANNE E. FARKAS, PRUDENCE O. HARPER, and EVELYN B. HARRISON (1987).

STEPHANIE DALLEY, *Myths from Mesopotamia* (1989), gives up-to-date English translations of the

myths in the Akkadian language. These and some of the main Sumerian accounts in English translation are collected in JAMES B. PRITCHARD, ed., *Ancient Near Eastern Texts Relating to the Old Testament*, 3rd ed., with suppl. (1969). See also J. BLACK, "The Slain Heroes—Some Monsters of Ancient Mesopotamia," *Society for Mesopotamian Studies Bulletin* 15 (1988).

SEE ALSO **Artists and Artisans in Ancient Mesopotamia** (Part 4, Vol. I); **Cylinder Seals and Scarabs in the Ancient Near East** (Part 7, Vol. III); **Myth and Mythmaking in Sumer and Akkad** (Part 8, Vol. III); and **Erotic Art in the Ancient Near East** (Part 10, Vol. I).

Theologies, Priests, and Worship in Ancient Mesopotamia

F. A. M. WIGGERMANN

THE PLAINS AND CITIES of Mesopotamia, the skies above it, the surrounding mountains and seas, were inhabited not only by man but also, according to native beliefs, by a host of gods, ghosts, spirits, demons, and monsters. To keep gods, ghosts, and spirits at peace, to outwit the forces of evil, and to make man and his divine patrons profit from their combined efforts were the concerns of Mesopotamian religion. Mesopotamian theology can be defined as the system of thought that governed this religion; it justified the cult and other religious practices by relating them to the functions, aims, and responsibilities of man, nature, and the supernatural.

Mesopotamian theology is a modern abstraction. The ancients themselves did not practice theology or any other kind of systematic science. Its dogmas and their coherence must be deduced from inexplicit sources—the archaeological, artistic, and written remains of religiously motivated behavior. The spread and nature of the sources, and the kind of conclusions they allow, will be briefly discussed in the next section.

Mesopotamian theology defined the gods as rulers, human beings as their servants, and nature as an object to be managed for the profit of both. Ruler and state yoked man to their service and supplied the gods with their basic needs—a

house and a meal or, in cultic terms, a temple and offerings. Human performance was closely monitored by the gods and was guided through punishment and reward; if the people cooperated, the nation thrived. Beyond the borders of the state the rule of the gods was contested; there evil was at home, with hungry demons, untamed monsters, rebellious mountains, treacherous seas, and lawless barbarians threatening civilization. Divine management, its enemies, the ruler, the state, the individual, and the cult are the subjects of the third section.

The striking political dimension of Mesopotamian theology and its lasting success as an ideology of rulership both derive from successive innovations that adapted the prehistoric religion of nature to a changing social reality. The historical development of Mesopotamian theology will be outlined in the fourth and final section.

THE SOURCES OF MESOPOTAMIAN RELIGION AND THEOLOGY

Since Mesopotamian theology is a modern abstraction, it is not directly documented by any source. Its facts must be deduced from their re-

flections in three different types of sources, each serving the same religion in its own way.

Its variety, comprehensibility, and long history make writing the most important single source for Mesopotamian religion and the implied theology. Foremost among the written sources is the large corpus of literary texts, practically all dealing with matters of religion in some way. The poetical texts were meant to be heard by a pious public, and consequently their tenor is conservative; hymns extol the gods; prayers and incantations seek their aid against misfortune and evil; myths justify or explain reality. The prose texts were composed by scholars for scholars, and so are less conservative. They record what had been previously left to memory and rearrange tradition so as to fit the present. Most literary compositions are known only from late library copies and are difficult to date. All Sumerian literary texts belong roughly to the

late third and early second millennia BCE, and most Babylonian poetical texts go back to the time of the First Dynasty of Babylon in the first half of the second millennium. The Babylonian prose texts contain either old material not previously written down (omen collections, medical texts, descriptions of rituals) or opportunistic rearrangements of tradition. Royal inscriptions and the documents of daily life (letters, contracts) have the advantage of being datable, and some of them contain important information on religious practices.

Second in importance to the written sources is religious art. Some notable exceptions aside, religious art treats the same themes over and over again, visualizing the relations between the gods, the ruler, his subjects, and the forces of evil. In contrast to written literature, religious art reached an enormous public and cannot but have expressed what was shared by all, the basic

The Use of the Word "Cult" in *Civilizations of the Ancient Near East*

Dictionaries give several basic meanings for the word "cult." For example, Webster's *Seventh New Collegiate Dictionary* has the following:

1. formal religious veneration (synonymous to worship);
2. a system of religious beliefs and rituals; *also*: its body of adherents;
3. a system for the cure of disease based on dogma set forth by its promulgator;
4. great and especially faddish devotion; *also*: its object or adherents.

Dictionaries explain that the word is derived from Latin *cultus*, meaning "care" or "adoration," and list "cultic" as the adjective derived from "cult." "Cultism" and "cultist" are other nouns that are based on the word "cult."

In *Civilizations of the Ancient Near East*, "cult" and "cultic" are used in all but the fourth sense; that is, these terms refer to the system of religious acts of worship in all their facets, including prayers, processions, sacrifice, adoration of divine images, gestures, and genuflections, whether or not such rituals are accomplished in sacred spaces (temples, shrines, or the like). It is left up to the individual contributors to decide whether "cult" and "cultic" also incorporate aspects of "theology," or the philosophical interpretation and rational explanation for religious faith, and of "mythology" that is, the figurative (often allegorical

or metaphoric) narration of elements of the faith. In volume 3 of this set, there are separate essays for most regions devoted to myth, irrespective of whether or not myth was integrated with worship and other aspects of belief.

In antiquity people seldom discriminated among the health of the spirit, mind, and body. Not only was one's personal well-being linked to the proper worship of the gods, but also it was widely believed that an entire community (if not also a whole society) could experience disorder (plague, earthquake, fire, and the like) because of an individual trespass or a communal neglect of the proper rites. Therefore, to counter a calamity that struck an individual or a community, elaborate rituals were enacted.

The fourth meaning that is listed above for "cult," however, is hardly at stake. It refers to a religion or a sect that is considered faddish, if not extremist and false as well. In recent decades and in popular Western usage, this pejorative sense for "cult" has come to acquire a primary status. Because in antiquity polytheism and acceptance of other people's divinities or modes of worship generally prevailed, such a derogatory usage in *Civilizations of the Ancient Near East* would be anachronistic.

The Editors

notions of Mesopotamian religion. The contributions of religious art are indispensable when and where the literary sources fail, especially for the first half of the third millennium, the formative period of Mesopotamian civilization.

Archaeology, the third source, uncovers what the cult left behind: the remains of temples and their equipment; of religious art; of pious gifts; and even of food offerings. Ideally archaeological data could help to reconstruct the temple's rituals and elucidate the meaning of religious art. Unfortunately, most of the temples excavated to date were found empty, their contents stolen or brought to safety. The few exceptions reveal the future potential of this source. For the first period of Mesopotamian religion, the time prior to the invention of writing and regular artistic activity, archaeology is our only source. For a variety of reasons, the cultic remains of this early period have not yet been sufficiently investigated.

Mesopotamian religion is well documented only in its final stages. The earlier stages must be reconstructed from their reflections in later sources, supported by administrative texts, religious art, archaeology, etymology, and debatable models of social and religious development.

The great majority of our sources was produced by scribes, artists, and architects in the service of temple and palace and tends to reflect official religion. Personal names and private documents, however, show that the basic tenets of official religion were shared by the population.

The technology of religion, magic, medicine, and the interpretation of signs was, like all technology, left to specialists. They served temple and palace as well as the common people, but although their incantations, potions, amulets, and revelations were apparently widely believed in, the reasonings behind these products can hardly have been known and understood by anyone but themselves.

MESOPOTAMIAN THEOLOGY AND CULT

Basic Dogmas

The basic ideas of Mesopotamian theology are simple, their consequences straightforward and

logical. Justifying the organization of state and cult, enforced by tradition, art, and recitations of religious poetry, such ideas could be understood clearly without explicit definition or special instruction. Fundamental to Mesopotamian theology was its definition of the place of human beings in the world; the gods created the world for their own benefit and created humanity to serve them. This idea is expressed in many different ways in hymns, prayers, historical texts, royal inscriptions, and art, but it appears most unequivocally in a number of Sumerian and Akkadian myths.

According to the myths, the great gods, organizing the world after the separation of heaven and earth, had the lesser gods dig rivers and canals and build their houses. The lesser gods rebelled, went on strike, and demanded to be relieved of their burden. The great gods consented to the creation of a substitute, man, to carry out these tasks but also had one of the rebels killed to show their displeasure and discourage future rebels. The oldest testimony to this myth is an Akkadian seal that shows the lesser gods (the carving depicts them as smaller) building some god's house while the largest of them, their leader, is being killed by one of two great gods. Such combinations of more than one phase of a story in one image are not uncommon in Mesopotamian art. (See "Myth and Mythmaking in Sumer and Akkad" earlier in this volume.)

Man (women may be included here, although the Mesopotamian language does not make this explicit) was designed by Enki, the god of wisdom whose home was Eridu (Abu Shahrain), and was produced with the help of the mother goddess, who was known under many different names. As the patron of white magic, the god of Eridu maintained an abiding interest in the welfare of his product. In some sources the clay man is made of is mixed with the blood of the executed rebel god. It gives him a divine ability to plan, but also to err, and explains why his "soul" lives on after death as a ghost.

Thus the burden of the lesser gods was transferred to human beings. When humanity multiplied, death was decreed as its fate in order to keep the population in check, and "kingship was lowered from heaven" in order to coordinate his efforts. The ruler organized his subjects in a state whose only purpose was to provide the

The Deities of Ancient Mesopotamia

The Mesopotamian pantheon originally consisted of deified elements of nature that in the late fourth and early third millennia became male or female anthropomorphic deities, each as a city god ruling his or her own city. In the course of the third millennium, the city gods were supplied with spouses and courts, and the relations of the city gods with one other were defined as family ties. Neither the gender nor the family relations of the gods were completely stable, and changes occurred toward the end of the third millennium and beyond. At the end of the third millennium and the beginning of the second, the main Sumerian gods were equated with the corresponding gods in the much smaller pantheon of the Semitic inhabitants of the (northern) lowlands. The Sumerian or Akkadian (Semitic) gods functioned not only as the heads of state of their city but also in the national pantheon as those responsible for certain elements of nature and civilized life. The most important gods were:

AN/ANUM The god of heaven. Presiding, in name, over the divine assembly. He was at home in Uruk but was not its city god.

ENLIL "Lord Ether." The god that separated heaven and earth in the early cosmogony (before *Enuma Elish*), organized the world after creation, and in fact dominated the divine assembly that met in his city, Nippur. His son **NINURTA**, "Lord of the Arable Earth," colonized the land and defeated the forces of evil that threatened divine rule.

ENKI/EA The "Lord of the Earth" (his Semitic name means "The Living One"). The god presiding over an underground domain called **ABZU** or *apsû*, the source of sweet waters. At home in Eridu, he was the patron of white magic and was responsible for arts, crafts, and the sciences in general. In the early cosmogony, his mother **NAMMA** represented the primeval cosmic waters from which everything came forth. In the later cosmogony of *Enuma Elish*, the primeval cosmic waters were represented by **APSU**, "the sweet waters" (male), and **TIAMAT**, "Sea" (female).

NINKHURSAG The "Lady of the Hills." The sister of Enlil and, in early sources, also his wife, who together with Enki produced man. She was at home in Kesh.

NANNA/SIN The moon-god. Son of Enlil and responsible for the division of time. He was at home in Ur.

UTU/SHAMASH The sun-god. Son of Nanna/Sin. He was the god of justice and at home in two cities, Larsa (modern Tell Senkereh) and Sippar (modern Abu Habba).

INANNA/ISHTAR The morning and evening star (Venus). Daughter of Nanna/Sin, and sister of the sun-god. She was responsible for love and war, and was at home in Uruk. Her husband was the mortal god **DUMUZI**.

ISHKUR/ADAD The storm-god. Responsible for rain and thunder. He was a son of An/Anum and at home in several small cities. His wife was the Naked (Syrian) Goddess, whose Semitic name, **SHALA**, seems to have meant "Well-being."

NINISINA The "Lady of Isin." Appearing under this and several other names as the goddess of healing. She was the city god of Isin (Ishan Bahriyat).

NINGIRSU (male), **BABA** (female), and **GATUMDUG** (female) Deities of the Lagash region. They did not play an important role in the national pantheon but were omnipresent in the important corpus of third-millennium Lagash texts.

The once-important chthonic snake god, **NINAZU** ("Lord Healer"), city god of Eshnunna (Eshnunak, modern Tell Asmar); his successor as city god of Eshnunna, **TISHPAK**; his son, **NINGISHZIDA** ("Lord of the True Tree"), not a city god but venerated in a small rural sanctuary; and his neighbor, **ISHTARAN**, the city god of Der (Tell Aqr), lost their national significance during the first half of the second millennium.

ERESHKIGAL The "Lady of the Big Earth," who ruled the city of the dead in the netherworld. Among the living she did not have a city to rule. Her husband was the god **NERGAL**, who did have a city, Kutha (Tell Ibrahim, biblical Cuthah).

MARDUK (unknown etymology) The city god of Babylon. He became important in the national pantheon only after the rise of his city. *Enuma Elish* legitimized his universal rulership and made him independent of the former head of the pantheon, Enlil.

ASSUR The city god of Asshur (modern Qalat Sharqat), in origin nothing more than the deified rock on which the city was built. To give him the status he deserved as the ruler of their mighty city, the Assyrians identified him at first with Enlil and later with Marduk.

gods with whatever they desire and thus justify the continuation of human existence.

While human existence depended on the satisfaction of the gods, the gods depend on their human servants for their leisured life, whose

performance they closely monitor. Satisfactory service was rewarded with prosperity and a (long) life; failure (sin) was punished with adversity, disease, and untimely death. Enlil, who as leader of the gods was in any case served (if not

by humanity, then by the lesser gods), cared little for what happened to human beings and was prepared to destroy them even for minor offenses such as disturbing his sleep. The other gods, unwilling to take up their burden again, saved their human substitute on several occasions in mythological history. Notwithstanding their mutual dependency and the word "love" that denoted their relationship in the native languages, there was little warmth between mortals and gods. Each performed his or her duties, but seldom more.

The world was managed by the gods, who decided on the function of things by "decreeing their fates." The basic decrees stem from the time just after the separation of heaven and earth, when the world was set on track, but current affairs also were guided by decrees. Generally the gods left the execution of their decisions to spirits, lower gods in the service of their courts, but in certain cases human agents were used. An important god had a vizier, often his son, who received human and divine visitors, heard their cases, and prepared them for treatment by his master. When the correct execution of the god's decrees was in doubt, he or she sent out a "Prosecutor" (a spirit) to investigate and intervene when necessary. "Fate" and "Evil Day," servants of the netherworld, were the death demons that fetched men and women when their time had run out. A whole host of "Evil Days," collective death, executed Enlil's decision to put an end to the empire of Ur. Whoever tried to escape what is decreed, his or her fate, was hunted down by supernatural "Constables." Spirits like "Fate," "Evil Day," "Prosecutor," and "Constable" might, like human officials, escape the control of their divine employer and act on their own. In such cases they were hardly distinguishable from the forces of evil. The medical and magical texts describe a variety of measures to counteract unwelcome spirits and the consequences of spirits' interventions.

Human agents executing divine punishment are the product of a theological interpretation of history. Thus, for example, the barbarous Gutians who brought down the empire of Akkad were presented as Enlil's instrument to punish the sins of the Akkadian king. The most important instruments of divine rule were of course the Mesopotamians themselves, who supplied the gods with their needs.

Cult and Temple

Since to supply the gods with their needs was the only purpose of the state and the justification for its survival, to do so was an obligation that could not be avoided. Avoidance was high treason; it jeopardized peace, prosperity, and life. It was the cult, supervised by the ruler, that met this obligation. The cult provided the gods with shelter and food or, in cultic terms, with a temple and offerings.

The center of the cult was the temple of the god, called his "house" in the native languages. There he lived with his family and servants, slept, ate, and drank and entertained his guests; there he organized his administration, received his clients, and heard their cases. Each city had a main temple, the seat of the city god, and many others inhabited by lesser or foreign gods. Initially each of the major gods of the pantheon was at home in one city only; later, with the spread of Mesopotamian civilization to the north, one god could have a seat in several cities at once. To build temples and keep them in repair was the task of the ruler. Inscriptions commemorating the performance of this royal duty are among the most common objects of Mesopotamian archaeology.

To serve the god properly, the temple was equipped like a household. Essential and omnipresent were the provisions for the god's meal: a table (in cultic terms, an altar); kitchens; and a variety of vessels for storing and serving. Later temples, more thoroughly adapted to their anthropomorphic inhabitant and undoubtedly influenced by royal palaces, added a reception suite with a throne surrounded by the weapons and attributes of the ruling god, sleeping rooms with beds, side rooms for his family and servants, a courtyard with a basin and water for cleansing visitors, and stables for his chariot and draft animals. To many temples belonged a quay where the god's boat was moored and a countryseat that could be visited in spring and summer.

Some of the more precious objects—thrones, beds, chariots, boats, weapons, and vessels—were presents brought by rulers, members of their families, or high officials. The dedicatory hymns and inscriptions named the gift givers and reminded the god of what they expected in return; prosperity and a long life for themselves, for their loved ones, or for the ruler, their repre-

sentative before the god. Only a tiny fragment of the temples' furnishings has come to light. Inventory texts, descriptions in hymns and rituals, and art objects showing gods holding court give an idea of their richness, variety, and use.

To cover the expense its pomp required and to sustain its staff, the temple bartered products raised on its lands; this income was supplemented by funds placed at its disposal by the ruler and affluent citizens.

Statue and Symbol

With the exception of some partly animal-shaped early snake gods, all major gods, whatever their origin in nature, were represented in their temples by anthropomorphic statues. The statue of the god was made of wood, face and hands plated with gold, eyes and beard of precious stone. Statues of lesser gods could be made of stone, clay, or metal. The statue was sumptuously dressed and, from the middle of the third millennium onward, wore a horned crown, the mark of divinity. A rich vocabulary gave expression to the awe with which the supernatural radiance of the divine image inspired the believers.

The statue was produced, "given birth to," with the greatest care. Rituals and incantations transformed the materials of which it was made into flesh and bone and endowed the statue with life. To make the statue do what it should most of all but so icily refused—take food and drink—its mouth was ritually washed and opened. That the god indeed accepted what was offered, while the meal in front of the statue remained manifestly untouched, was the ultimate mystery of Mesopotamian theology. The Old Testament prophets eventually convinced many, Jews and Christians alike, of its utter stupidity.

Statues of gods were depicted very early on art objects and described in detail by later ritual texts. Actual cult statues belonging to the earlier periods, however, have not come to light, probably because of their perishable components.

In the context of the temple's rituals, the god and the statue were identical. Everything the god was supposed to do was, in some form, done by priests to and with the statue. Since the god-statue was anthropomorphic, the temple's rituals were anthropomorphic too, and replayed the life of a divine paterfamilias and landowner. The

god-statue, and consequently the temple's rituals, had daily and periodic programs, both very imperfectly known today. The daily program executed the god's private life; its rituals concerned his meals and entertainment. The periodic program was monthly, based on the phases of the moon, or yearly, based on the agricultural cycle, and executed the god's public life. Its rituals concerned the management of his estate and his contacts with the outside world, his human servants and his fellow gods. Besides the characters and symbols of the gods themselves, the occasions of the periodic festivals reveal the interests of the prehistoric nature religion out of which the political religion of city gods developed. Nature and its cycles did not lose their religious significance but appeared, reframed by the anthropomorphic cult, as objects and processes managed by divine landowners to serve their needs. An ancient cult more directly inspired by the cycles of nature survived outside the main city temples until the end of the third millennium—that of dying and resurrected chthonic snake gods.

On certain occasions the god-statue left the temple and showed him- or herself to the public. He reviewed his city (in a procession), visited his house in the country, and met with the gods of other cities to "decree the fates" of the nation or to obtain the blessings of his seniors. Besides bringing the god-statue into contact with its human servants, outdoor rituals involving more than one city had the added importance of maintaining theological unity on a national level. The great antiquity of such rituals is suggested by seals and other art objects of the early third millennium (the protoliterate period) showing movable symbols, cultic standards (the pictogram for "nation" is such a standard), and statues on animals or boats, functioning in incontestable ritual contexts.

The symbol of a god was an object representing his original, preanthropomorphic self (sun-disk, crescent, star); an important aspect of his character (lightning fork of the storm-god, snakes and dragons of chthonic gods); or a typical activity (instruments, weapons). To some of his regular and less important affairs, the god could delegate his or her symbol: to certain voyages and other outdoor rituals; to oath ceremonies; to ordeals; and, especially in the later periods,

to receptions. When for some reason the statue of the god was not available (as when destroyed or stolen by the enemy), representation by the symbol became a necessity. The symbol, however, could not replace the statue in all its ritual functions, and the anthropomorphic cult remained incomplete as long as the statue was absent. Absences not dictated by regular cultic demands were naturally interpreted as an expression of divine anger and were extremely disturbing.

Rituals

Basic to the temple's cult, and regular by necessity, were the rituals that effectuated its assignment, which was to serve the god and thus secure the survival of mankind. These rituals concerned the meals of the god and his relations with his human servants and their representative, the ruler.

The god-statue was served two meals per day, breakfast in the morning and a sumptuous dinner at night. Some or all meals were accompanied by music and burning incense. During its miraculous meal, the statue was in the cella (the inner part of the temple), hidden from human eyes by a curtain. In earlier periods the ruler and the affluent citizens on whom the temple depended for its sustenance were entitled to place statues representing themselves in the cella. The cups that these statues held in their hands, or were otherwise provided with, were periodically filled, at meal times undoubtedly together with those of the god. Thus through their statues, these individuals partook in the meal of the god and could reach him or her with their complaints and supplications at the time he was best disposed. The statues of worshipers remained in the cella for some time after their deaths, thus enjoying the "life" the dedicatory inscriptions ask for. In later periods the king was served with what remained of the god's meal, or the mass, with a different and less direct form of communion. In some mysterious way the god was satisfied, too (he assimilated some mystical substance from the food, while the visible mass remained untouched).

At set times the god held audience, reviewed his or her human servants, and received their token contributions to his welfare—some food

and drink offered with brief formulaic greetings and words of praise. By receiving the contribution of the servant and acknowledging the servant's salute, the god implied approval of his performance during the previous period, prolongation of service, and thus life, health, and protection against evil. It is unlikely that in reality anyone but the ruler, high officials, and officiating priests were admitted into the cella. However the believer (male or female) might imagine approaching the throne of the god, accompanied by an UDUG (male) and a LAMAŖ (female) spirit attending at the god's court. Being accompanied by a good UDUG and a good LAMAŖ became the standard image expressing a favorable review and the prosperity it implied, and it is widely attested in prayers and religious art. For occasional complaints and supplications, the individual could address the anthropomorphic god or its symbol in the temple or one of the other forms of the god whenever it was present—for instance the moon-god Nanna at night or the sun-god Utu during the day.

The Ruler

Political hierarchy was installed by the gods to keep their unruly human servants on track. The ruler was responsible for the internal peace that maximized man's service and for the destruction of the outside enemies that threatened it. Mesopotamian history produced two types of rulers, with similar responsibilities but different foundations in theology and different functions in the cult. The earliest Sumerian cities in the south were ruled by an EN, or "Lord," selected by extispicy (inspection of the entrails of sacrificed animals for the purpose of divination) from a limited number of citizens and bound to the city and its temple by his marriage to the city's deity. The most important and best documented city of this period, Uruk (modern Warka, biblical Erech), had a city goddess (Inanna) and, consequently, a male EN. Other cities, such as Ur, had a city god and consequently a female EN, who may not have had the same political power as her male counterpart.

The northern part of lower Mesopotamia developed a different institution, that of an inheritable territorial kingship. The ups and downs of kingship cannot be exactly reconstructed, but at

the end of the third millennium, the nation was firmly united under one king (LUGAL) and would remain so, at least in theory, until the end of Mesopotamian civilization. The national king was appointed by his city god, whose city was chosen to rule the nation by a national assembly of gods presided over by Enlil and meeting in his city, Nippur (Nuffar). In the later second millennium the appointments of Marduk, city god of Babylon, were made independent of Enlil and the divine assembly. (See "Royal Ideology and State Administration in Sumer and Akkad" in Part 4, Vol. I.)

While the power of the territorial kings rose, that of the local ENs dwindled. By the end of the third millennium, it had vanished, and their office had shrunk to its cultic core (service to the god-statue in his temple); until about half a millennium later, when all EN-ships were abolished, the EN remained the leading priest(ess) in the cult of the city gods or goddesses.

An EN was installed in office by the performance of a "Sacred Marriage," a rite that established his (her) marital relations with the city god. Actual cohabitation of the male EN of Uruk with a priestess representing the city goddess (Inanna) is attested in some early-second-millennium sources, but apparently this was neither a necessary nor a common feature of this rite. From the late third millennium onward, the functions of EN of Uruk and that of national king could be united in one person; sometimes this did occur. The other important EN-ship, that of the moon-god Nanna in Ur, was often taken by a daughter of the national king.

At the beginning of the new year, the ruler was called to account: the EN of Uruk by his spouse, the city goddess, and the national king by the city god that appointed him as well, perhaps, as by Enlil and the divine assembly. The rituals took place in early spring, partly in the god's city and partly in his countryseat where the harvest was collected. Although the evidence for the New Year's festival is unevenly spread and confused, certain recurring elements can be recognized that permit the essence of its rituals to be defined with a fair degree of probability: the ruler proved his adequacy by offering the first fruits of spring; the god recognized his performance of duty, reaffirmed him in his office, and decreed another year of plenty as the fate of his

people; and god, ruler, and population celebrated the success of their cooperation. All was well.

But all was not always well. The god might not have been happy with the performance of his servants and their ruler or might not simply have been in the mood to take care of them. On such occasions there was hunger and death instead of prosperity. In the worst case, the god might have decided to leave his city and give it over to the demons and enemies that always lay in wait. Regularly, and when the situation demanded it, special rituals were performed to "soothe the heart" of the easily irritated gods.

The "Priests"

The native languages did not have a word "priest" that was specific to cultic leadership. In a way, everyone employed by the temple to carry out its manifold tasks could be called a priest.

The administration of the temple was headed by the "Bookkeeper" (SANGA), who also had religious duties and after the abolition of EN-ship became the temple's foremost religious official. The resources he managed were used to sustain the temple's employees and to supply the cult. The temple employed farmers to till its fields; shepherds for its herds; millers, bakers, cooks, and weavers to process the products; woodworkers, metalworkers, stonecutters, and architects to supply the god with luxury objects and keep the buildings in repair; cleaners, courtyard sweepers, and doormen; and, finally, scribes to document their comings and goings and account for the costs. Small temples had fewer employees, sometimes only a "Bookkeeper."

More equivalent to what we call priests were those functionaries directly involved in the cult. The most important of them was the male or female (depending on the gender of the city diety) EN, who served the city god(dess) as his or her spouse. Lesser gods were served by human spouses as well, but they had different names. Some gods had harems consisting of girls and women who were not allowed to marry and who lived together in a "closed house" near their god. Midway in the second millennium, all sexual alliances between divinities and human beings were proscribed. From then on the god had

to be content with his divine spouse. Second in rank were those who “opened the mouth” of the statue, attended at the god’s meal, and kept the sanctuary free of evil. Their titles changed through time, and our sources generally do not specify their functions. Finally singers and musicians enlivened the god’s (festive) meals. One of them specialized in “soothing the heart” of the god.

While the EN and the human spouses of lesser gods were chosen by the god himself, his decision was communicated through an omen; but the fitness of other priests, their “reverence and humility” toward the god, could be established by extispicy, or by an inspection of their body; only if blameless (without sin) and bodily whole (of visibly sound body) were they found fit. Some of the lower temple functions were inheritable and could be bought and sold. They had a material value, since their holders were entitled to a daily meal. For these functions “reverence and humility” apparently did not have to be beyond question.

Controls

What a temple should look like, what rites were to be performed and by whom, how the ruler should dress and act, what to do in times of war or peace, in arts and crafts—every element of civilization was governed by traditional rules called ME in Sumerian and *parṣu* in Akkadian. They were thought to have come into existence together with the phenomena they governed, and so were believed to be part of creation and divinely ordained. Gods, especially Enki of Eridu, distributed them, supervised their observance, and kept them in working order. In mythological contexts the word ME sometimes took on a more universal or abstract meaning and catalogued a kind of constitution for the cosmos. In such cases the ME are hardly distinguishable from the fates decreed by Enlil on the Holy Mound just after the separation of heaven and earth.

From the late third millennium onward, tradition was supplemented by a steady literary activity whose products formed the core of the “Scriptures” that dominated the final, Babylonian stage of Mesopotamian theology. Obviously these “Scriptures” and the religious directives

and explanations they contained could not be considered man-made, and the Babylonians ascribed them in part to the god Enki, in part to supernatural and human sages guided by him. It was told that at the dawn of history the first sage, Oannes, half man and half fish, rose out of the Persian Gulf and taught man everything he needed to know: writing; sciences and crafts; and how to found cities, establish temples, introduce laws, measure land, sow and reap. Six further fish-man sages (*apkallu*) followed who explained the teachings of Oannes but added nothing new. The legendary sages were employed by legendary kings, but the historical kings employed one of their learned successors as “Master (Scholar)” in their cabinets. The “Master” and other scholars kept the king in contact with the “Scriptures” and advised him on religious matters. That they, like their predecessors since Oannes, explained but added nothing new is confirmed by the actual products and procedures of first-millennium scholarship consisting of recopied texts and inventive rearrangements of traditional learning.

Evil and Suffering

Like the rebellious god whose blood ran through their veins, men and women tended to err (sin). With adversity, disease, and the threat of untimely death (punishment), the gods forced their failing or erring servants (sinners) back onto the trail of satisfactory service. In order to be effective as an instrument of divine rule, punishment had to be just, so that faithful servants were left peacefully at work and clearly motivated, while sinners identified their sins and changed their ways. When a faithful servant was punished, something was amiss; the faithful servant might not have been as faithful as he seemed, the punishment may have been wrongly administered, or the misfortune may not have been the consequence of divine intervention at all but of something else, something lawless: evil.

The faithful sinned unknowingly when the “assignments” (omens) of their divine masters could not be decoded, or when the gods expected them to react to inexplicit and incomprehensible plans sprung from their inscrutable minds. The “unknown sin” was a widespread source of anxiety, especially in the later periods,

and led to generic and unfocused confessions of guilt and all-purpose rituals of atonement. The inscrutable mind of the gods was one of the main subjects of the so-called wisdom compositions of the later second and first millennia.

Wrongly administered punishment did not surprise the subjects of a totalitarian state, and the casual and unjust treatment of their affairs by gods was a common cause of complaint in Mesopotamian prayers of all periods. Such divine mistakes were expected to be redressed.

Most misfortune was caused by evil. Evil belonged to the different and threatening world outside, to the territories beyond the borders of house, city, nation, and divine rule, to dark motivation, immoral behavior, and inhuman forms. Evil sneaked through the silent streets at night, lurked in abandoned buildings, and hid from the legitimate divine rulers in the steppes and mountains surrounding civilization. Some, perhaps all, evil belonged to the earlier unorganized cosmos (before the appearance of Enlil) and was an untamed by-product of creation. Its demons had no cult, received no offerings, did not profit from man's pious activities, and preyed upon him without restraint. Descriptions of demons resemble those of human or animal enemies; both raided the lowlands and took by force that to which they had no right. The image of the shepherd (ruler) protecting his herd (nation) against the wild world outside informs much of Mesopotamia's art and religious metaphor and aptly expresses the anxiety of the righteous on guard against ungodly barbarism.

The demons that attacked the people were summarized as the "Seven Evil Spirits"; individually named, they included servants of divine courts gone wild, like "Evil Fate" or "Evil Constable," but also pure evil, like "Disorder" (AZAG), who brought diseases that were not decreed by the gods and who in a Sumerian myth is promoted to the archenemy of divine rule. The baby-snatching she-demon Lamashtu was sometimes called their sister. Differently natured, but just as dangerous and often mentioned in one breath with the "Evil Spirits," were the "Evil Ghosts," the souls of dead people that returned to the inhabited earth to quench their thirst and still their hunger. The misfortunes and diseases brought by the attacks of evil were combated by the incantation specialist (*āšipu*),

instructed and supervised by Enki, the creator of man.

Monsters were supernatural beings composed of animal and human parts. Originally they represented aspects of gods, and partly they were rooted in the nature religion of prehistoric Mesopotamia. With the development of divine anthropomorphism, the monsters turned into enemies of the gods. Finally, in *Enuma Elish*, the Babylonian creation epic, they became the children and soldiers of the primeval Sea (Tiamat), the opponents of Marduk in the struggle that resulted in the founding of his universal empire. Monsters, however, did not normally attack people and never caused disease.

Not all diseases had their origin in sin or the activities of evil. Wind, water, fire—"dripping down from the stars" or "bursting the surface of the earth like weeds"—and dogs, snakes, and scorpions caused a variety of ailments that were unconnected to the spiritual world. They were treated by the medicine man (*asû*). (See "Medicine, Surgery, and Public Health in Ancient Mesopotamia" later in this volume.)

Since evil could be released or permitted by angered gods, and since there were many gods who could be provoked as well as many voracious demons, the exact diagnosis of adversity and disease was obviously a complicated matter. In difficult cases the incantation specialist and the medicine man were assisted by a sign interpreter (*bārû*), but even then the three of them might fail to reveal the cause.

The Individual

The ruler represented his subjects before the god and was responsible for the public rituals that guaranteed the survival of the state. With the progress of time, the common Mesopotamian people understood less and less of their contents, the prayers being in obscure (Sumerian) or antiquated (literary Babylonian) languages, the cultic agendas overwrought. It was not necessary for them to understand these rituals, however, since they fulfilled their religious duties by being obedient subjects of the state, doing public service, paying taxes, and occasionally showing respect to the gods by offering token contributions during the gods' festivals.

Between the performance of duty and the threat of punishment there was little joy, and

the relation between man and his gods was lukewarm at best. The Mesopotamian carried this unshakable burden demurringly but took pride in the organized life on which the service to the temples and their divine inhabitants depended. Unlike the surrounding barbarians, who behaved like wild animals, ate uncooked meat, and did not know temples, priests, or rituals, the Mesopotamian was truly human, lived in a house, knew how to prepare food, bury his dead, and take care of his gods.

A Mesopotamian was not only a member of the state but also a member of a family. Like the state the family was hierarchically organized; the family head represented his family. The little that is known about the family's religious interests stems from the magical texts used by the incantation specialist, who made house calls, and from omen collections treating the interpretation of signs in private homes. They seem to focus on the defense of the house and its inhabitants against intruding evil and on the monthly meals for the family ghosts.

Individual men or women could be singled out by the gods for punishment or be victimized by evil powers. The sins that led to punishment were atoned for through confessions and prayers spoken by the individual, at home or in the temple. The evil responsible for his or her misfortune was identified and driven out by the incantation specialist. It is difficult to see how a private individual could have enhanced his fortune other than by being a model citizen.

HISTORICAL OUTLINE OF MESOPOTAMIAN THEOLOGY

The history of Mesopotamian theology can be related to the growth of social complexity through time and to the different mechanisms that produced and maintained cultural unity on a national level. Relating theology to the growth of social complexity makes it possible to supplement the meager sources for the formative phases of Mesopotamian religion with archaeological data and historical facts from the traditions of later times. It also affords an explanation for the striking political dimension of Mesopotamian religion.

The theological innovations that adapted religion to the demands of a changing society concerned the transformation of the original pantheon of nature gods into one of anthropomorphic city gods, the organization of a national cult in a national cult center (Nippur), and the fixation of tradition in a set of more or less authoritative "Scriptures."

Prehistoric Stage

Prehistoric Mesopotamian society was organized in village communities with a rural economy based on agriculture, fishing, and herding. The later development of Mesopotamian theology implies an original pantheon of gods of nature, the most important being Moon, Sun, and Venus; their abode, Heaven; Earth; Ether, the space between Heaven and Earth; the Hills surrounding the lowlands; and a number of chthonic gods associated with growth and snakes. Such gods had no gender (Sumerian does not formally distinguish between masculine and feminine nouns) and consequently no spouses and no children. In the historical Sumerian pantheon, only Sun (Utu) and Heaven (An) retained their original names. The other original names were replaced with epithets: Moon was "Heavenly Lord" (Nanna); Venus was "Lady of Heaven" (Inanna); Earth was "Lord of the Earth" (Enki); Ether was "Lord Ether" (Enlil); Hill was "Lady of the Hills" (Ninkhursag); the chthonic gods were "Lord Healer" (Ninazu) and "Lord of the True Tree" (Ningishzida).

Some gods were associated with animal spirits that represented an aspect of their nature. Enlil was associated with the eagle "Storm Cloud" (Andugud/Anzud); Sun with the "Bison-Bull" (Gudalim), representing the distant lands he traveled; and the chthonic gods with the "Awful Snake" (Mushkhush), representing their underground activities.

There were temples in the villages, and in one of them (Enki's temple in Eridu), the remains of offerings have been found. There were also cults for the dying and resurrected chthonic gods, partly surviving into the historical period.

Besides the myth of the separation of heaven and earth, which was old and widespread among the peoples of antiquity, Sumerian mythology, as known from later sources, was based on anthro-

pomorphic themes (struggle, marriage, procreation). Consequently it could not go back to the preanthropomorphic nature stage of Sumerian religion. (For example, Venus can marry and give birth only when she is imagined as a human being; a planet cannot marry or give birth.)

Eridu Stage

During the Uruk period (fourth millennium), the villages grew explosively, and at its end they were cities. The transformation of the nature gods into city gods/heads-of-state supplied the expanding societies with what they needed most. First, it provided a new social structure with liberal admission rules based on a willingness to serve the city god, not on family ties. Second it provided a "theory" of state to justify stratification. A city was organized around the

service to the city god who owned the city's domains; the city's leadership, headed by the city ruler (EN, or "Lord"), redistributed the produce of the god's lands among his servants, the city's population: and the city ruler owed his office and a circumscription of his duties (to provide for the deity) to his marriage with the city god(ess).

That indeed this political model ("temple-city"), so well known from early historical Sumer, existed already at the end of the Uruk period, appears from the wealth and expanse of Inanna's temple in Uruk (pointing to a centralized redistribution of surplus); from the Uruk vase showing the city ruler (EN) receiving EN-ship (the pictogram for the word EN) from the temple of Inanna in return for his dutiful providing (fig. 1); and from the Sumerian name of the city god of Susa (biblical Shushan, modern



Fig. 1. Relief bands of a cultic vase from Uruk, late fourth millennium BCE. Presumably at the occasion of a harvest festival, the ruler of Uruk, the EN (1), and his subjects (2, 3) bring offerings in the form of bread, beer, fruits, and a costly piece of linen to the temple of the city's goddess, Inanna (4), which is marked as such by the presence of her two symbols (gate posts) at the entrance (5). In exchange for the offerings the EN is about to receive confirmation of his office, an object shaped like the cuneiform sign EN (6). Inside the temple (6, 7) everything is prepared for a meal to be celebrated by the EN and the goddess (or her human representative) at the end of the festivities, which perhaps included a sacred marriage rite. COURTESY OF F. A. M. WIGGERMANN

Shush)—(N)inshushinak, “Lord of Susa.” This god is clearly a city god, “lord” of his city, and can only have been named in the late Uruk period, the time of the Sumerian colony in Susa, since after that time the city was inhabited by Elamites. Thus Mesopotamian civilization owes to the late Uruk period not only its writing and religious art, but also its basic political structure.

The city gods were anthropomorphic, and consequently either male or female. Their gender was not in all cases definitely fixed, and gender changes still occurred in the historical period. In the course of the third millennium, the anthropomorphic deities were supplied with spouses, in most cases artificial or secondary figures, and a court. The addition of a divine spouse confused the deity’s relation with his human partner (the EN) and resulted in the curiously mortal god Dumuzi, Inanna’s husband in the historical period. At the end of the third millennium, his cult was associated with that of the dying and resurrected chthonic gods and that of dead rulers.

The anthropomorphic gods retained traits of their origin in nature (character, symbol, occasions of festivals) supplemented with traits derived from the economic interests of their domains. While the gods became anthropomorphic rulers, the associated animal spirits turned into monstrous adversaries of their rule.

The distribution of gods over cities, with each major god having his or her own city, and the cultural unity of the late Uruk period suggest a level of organization above that of the city, and later traditions, stripped of anachronisms, point to Eridu as its center. Eridu was the home of the earliest national “kingship,” of the ME, the traditional rules that guided protoliterate civilization, and of the seven sages, who supervised the construction of temples and the production of divine statues. Its god was Enki, the “Lord of the Earth,” the creator of man and the patron of arts, crafts, and sciences. His relations with Inanna, the goddess of more prosperous Uruk, and later with Enlil, his successor as national god, reveal the struggle for power that in the end he would lose.

Nippur Stage

The northern part of lower Mesopotamia had a different name (Wari, later Akkad); a different demographic structure (smaller population centers more evenly spread); and apparently a differ-

ent tradition of rulership, that of an inheritable territorial kingship. The origins of northern kingship surfaced in later traditions as the (non-Sumerian) legend of the shepherd Etana and his son Balikh, the first king.

Halfway through the third millennium a northern king, Enmebaragesi (Mebaragesi), transformed Enlil’s temple in Nippur, exactly between Wari and Kengir (Sumer), into a national cult center, the first step toward the unification of the two cultural provinces under one king deriving his power from Enlil and the national assembly of gods. With Enmebaragesi and his son Aka, national history began; they were the first kings of the Sumerian Kinglist who were not legendary and whose inscriptions actually have been found. Under the aegis of the national kings, Nippur became in the course of the third millennium the center of a literary culture whose products formed the core of the “Scriptures” of the Babylon stage of Mesopotamian theology.

Northern influences on Sumerian religion during this period are indicated by intrusions of Semitic vocabulary. Among them are god’s names like Urash, “Arable Earth” (the wife of An, “Heaven”); Sherda, “Morning” (the wife of Utu, “Sun”); Uttu, “Spider,” the goddess of weaving; and Kulla, “Clay Pit,” the god of bricks. Other indications of northern influence are the word MEDDA, “god’s weapon” (and the theme of struggle in mythology and art); the word UŠUM, “python,” a mythological serpent; the words EZEM, ALAM, and IŠIB for “(cultic) festival,” “statue,” and a kind of cultic specialist in the temple; and finally the word GADIM for “predecessor,” “ghost,” which seems to point to the tribal world of the north as the home of ancestor worship.

Babylon Stage

During the first half of the second millennium, Babylon rose to power, Nippur was abandoned, and Sumerian culture was eclipsed. At the end of the millennium, *Enuma Elish*, the Babylonian poem of creation, reformulated mythology, with the result that Marduk and his city of Babylon were made completely independent of Enlil and the divine assembly of gods in Nippur. Babylon became the center of a scholarly culture that collected, wrote down, and explained the liter-

ary products and religious knowledge of the previous periods.

The great gods of the Sumerian pantheon were equated with their Semitic counterparts and functioned in national cults. The local cults continued to center around the ancient city gods and their courts without much change. The state cults were conducted mostly in seclusion, their prayers and incantations in obscure or antiquated languages, their cultic agendas confused by steady reworking. They can have meant little more to the public than that they were conducted at all and that the ruler represented them before the god in ways sanctioned by tradition. The gods themselves became more just, regal, and distant than ever before, which gave rise to the only remarkable literary creation of the later period, Babylonian wisdom literature.

BIBLIOGRAPHY

General Introduction

JEREMY BLACK and ANTHONY GREEN, *Gods, Demons, and Symbols of Ancient Mesopotamia: An Illustrated Dictionary* (1992), is a very useful encyclopedic review of Mesopotamian religion, with succinct descriptions of gods, demons, rituals, mythological themes and iconographical elements; HENRI FRANKFORT ET AL., *The Intellectual Adventure of Ancient Man: An Essay on Speculative Thought in the Ancient Near East* (1946); see THORKILD JACOBSEN, *Toward the Image of Tammuz and Other Essays on Mesopotamian History and Culture*, edited by WILLIAM L. MORAN (1970), for a collection of important essays—some very detailed, some more general—and many of them dealing with the early stages of Mesopotamian religion; and his *The Treasures of Darkness: A History of Mesopotamian Religion* (1976); A. LEO OPPENHEIM, *Ancient Mesopotamia: Portrait of a Dead Civilization* (1964; rev. ed. 1977), is a review of Mesopotamian culture with a stress on the late stages; and see SIMO PARPOLA, *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal*, part 2, *Commentary and Appendices* (1983), for detailed discussions of the

relations between Assyrian kingship and religious literature.

Temples and Religious Festivals

MARK E. COHEN, *The Cultic Calendars of the Ancient Near East* (1993), contains detailed discussions of the cultic calendar and some of the most important religious festivals; EBERHARDT HEINRICH, *Die Tempel und Heiligtümer im alten Mesopotamien: Typologie, Morphologie und Geschichte* (1982), is a complete review of all excavated temples, discussions of formal development and many drawings; ANDREW GEORGE, *House Most High: The Temple in Ancient Mesopotamia* (1993), is a complete review of all Mesopotamian temple names, with many details on gods and cults. See also BENNO LANDSBERGER, *Der kultische Kalender der Babylonier und Assyrer* (1915; repr. 1968); ANDRÉ FINET, ed., *Les Fêtes: Actes de la XVII^e rencontre assyriologique internationale. Bruxelles, 30 juin–4 juillet 1969* (1970); and *Le Temple et le culte: Compte rendu de la vingtième rencontre assyriologique internationale: Organisée à Leiden du 3 au 7 juillet, 1972* (1975).

The Divine Statue

WILLIAM W. HALLO, "Texts, Statues, and the Cult of the Divine King," in *Congress Volume: Jerusalem 1986*, edited by J. A. EMERTON, *Vetus Testamentum*, Supp. 40 (1988); and THORKILD JACOBSEN, "The Graven Image," in *Ancient Israelite Religion: Essays in Honor of Frank Moore Cross*, edited by PATRICK D. MILLER ET AL. (1987).

Priests

R. BORGER, "Die Weihe eines Enlil-Priesters," *Bibliotheca Orientalis* 30, nos. 3–4 (1973); M. DIETRICH, "Das Einsetzungsritual der Entu von Emar (Emar VI/3, 369)," *Ugarit-Forschungen* 21 (1989); and J. Renger, "Untersuchungen zum Priestertum der altbabylonischen Zeit," *Zeitschrift für Assyriologie* 58 (1967), 59 (1969).

Sin, Evil, and Suffering

W. G. LAMBERT, *Babylonian Wisdom Literature* (1960), is a basic collection of texts, with a detailed history of the development of the genre; K. VAN DER TOORN, *Sin and Sanction in Israel and Mesopotamia: A Comparative Study* (1985).

SEE ALSO *The Social and Economic Organization of Ancient Mesopotamian Temples* (Part 4, Vol. I); *The History of Ancient Mesopotamia: An Overview* (Part 5, Vol. II); *Myth and Mythmaking in Sumer and Akkad* (Part 8, Vol. III); and *Ancient Mesopotamian Religious Iconography* (Part 8, Vol. III).

Lamentations and Prayers in Sumer and Akkad

WILLIAM W. HALLO

THE LAMENTATIONS OF ancient Mesopotamia are poetic responses to real or imaginary disasters. They can be broadly divided into two groups which, in keeping with usage in biblical criticism, can be described as congregational (communal) and individual laments, respectively. Within each group, the material can be further classified according to the focus of the lament: a city or temple, a deity, or a deceased king on the one hand; a living king or a deceased individual on the other. In keeping with this classification, the native scribes recognized various specific genres (literary categories), often labeling the compositions accordingly and always adhering strictly to the traditional norms that featured a common, distinctive set of characteristics. In the millennial history of these genres, language is a useful index of date, with the earliest stages generally represented by main-dialect Sumerian, followed by dialectal Sumerian, Sumero-Akkadian bilinguals, and Akkadian unilinguals. In the survey that follows, the compositions are organized by genre, and within each genre by language or dialect. They are cited by the titles generally coined for them by Assyriologists, rather than by their ancient titles, which normally consisted of their opening words or "incipit." In the conclusion, the genres are compared and contrasted with their biblical counterparts.

CONGREGATIONAL LAMENTS

Forerunners in Main-Dialect Sumerian

The earliest example of a congregational lament dates from the Old Sumerian period and constitutes a kind of forerunner to the lamentations over the destruction of temples and cities of the Neo-Sumerian canon. "The Fall of Lagash" is a unique composition, preserved on a single clay tablet dating from, or at least referring to, Uru-inimgina (Urukagina), the last ruler of the First Dynasty of Lagash, around 2350 BCE. It catalogs the shrines of Lagash devastated by Lugalzagesi of Umma and puts the blame squarely on that ruler or his patron-deity, absolving the ruler of Lagash. Lugalzagesi went on to conquer all of Sumer but was in turn defeated by Sargon of Akkad (Agade). The story is related in a text better described as a legend than as a lamentation. But the dynasty that Sargon founded came to grief in its own turn at the hands of the Gutians. According to the "Curse of Agade," the destruction of Akkad occurred during the reign of Sargon's grandson, Naram-Sin, although other evidence suggests a later date for the event. This highly tendentious hymn has many features in common with the city-laments. A supposed lament for the city of Kirga is not a parody of the

genre but rather a proverbial complaint about the loss of “standards” (DL.IR.GA).

The linguistic evidence attests to the importance of musical accompaniment to formal lamentation. There are harps of lamentation (BALAG A.NIR.RA) and of wailing (BALAG ÍR.RA). Reed-(pipes) of wailing (GI ÍR.RA = *qān bikīti*) gave rise to the technical term for ritual wailing (GI.RA.NÚM = *girrānu*). For percussion instruments see below.

City-Laments in Main-Dialect and Dialectal Sumerian

The Sargonic Empire was restored to some extent by the Third Dynasty of Ur whose own fall at the end of the third millennium was regarded as an especially devastating sign of divine displeasure. No less than six laments commemorated the event, and they did so in such vivid terms that they suggest the reaction of eyewitnesses. Because of their specific allusions to historic personages and events, they are sometimes described as “historical laments.” Two of them, however, mention King Ishme-Dagan of Isin, and were therefore written at least fifty years after the disaster, and so, probably, were the others as well. In fact, the laments were designed as liturgical accompaniments to the royal rebuilding of the destroyed temples, which involved the inevitable razing of their remains—a possible sacrilege against their gods. Like their forerunners, therefore, the city-laments describe the earlier destruction in lurid detail. They seek to absolve the royal rebuilder by heaping blame on the foreigners who caused the original devastation. But unlike their forerunners, they were intended for liturgical use, as indicated by their division into anywhere from four to twelve or more stanzas designated as “first genuflection” (KI.RU.GÚ), “second genuflection,” and so on. Their allusions to specific destructions made them unsuitable for subsequent reuse in the liturgy, but they were adopted into the Neo-Sumerian canon and widely recopied in the scribal schools of mid Old Babylonian times (about 1800–1700). Three of them were written wholly or largely in the main dialect of Sumerian. The “Lamentation over the Destruction of Sumer and Ur,” which may be the first in the series, catalogs the devastation visited on all the

major cities of the Ur III Dynasty in its second stanza, while concentrating on the capital city of Ur in the other four. The laments for Eridu and Uruk (modern Warka, biblical Erech) bemoan the fates of these two cities in at least eight and twelve stanzas respectively.

Three other city-laments bewailed the fate of the political capital at Ur, the religious capital at Nippur (modern Nuffar), and, in fragmentary form, the more obscure town or temple of Ekimar. They were written wholly or largely in a dialect of Sumerian called “Emesal” (literally “thin” or “attenuated speech”). This dialect was affected, in literary texts, by women or goddesses and by the liturgical singers (GALA = *kalû*) who specialized in reciting lamentations. Females were often described as bemoaning the fate of their cities, their husbands, or their sons, and the theme of the weeping mother (sometimes compared to the *mater dolorosa* of the Christian tradition) has been recognized in several types of laments. The *kalû*-singers may have been castrati singing in a kind of falsetto; in any case, they became the butt of unflattering references, particularly in the proverbs.

Tambourine-Laments and Harp-Songs in Dialectal Sumerian

Inevitably, the Dynasty of Isin came to an end, meeting its doom at the hands of the rival Dynasty of Larsa. The event was commemorated in a number of compositions in which Nin-Isina (the divine “Lady of Isin”) in one or another of her various manifestations laments the fate of her city. Most often, these compositions were labeled as “tambourine-laments” (ÉR.ŠÉM.MA, from ÉR = *tazzimtu*, lament, or *bikītu*, wailing, and ŠÉM = *ḫalḫallatu*, tambourine). Over one hundred compositions of this genre were recorded in two catalog texts that list their incipits (i.e., the first line or first words of each). They were addressed or attributed to a variety of deities, and probably composed during the First Dynasty of Babylon which, under King Hammurabi, succeeded Isin and Larsa as the main political power of the region. At least twenty-five of the tambourine-laments are preserved in whole or in part; they are invariably composed in dialectal Sumerian.

Excerpt from the “Lamentation over the Destruction of Sumer and Ur” (fourth stanza)

There is lamentation in the haunted city, reed-(pipes) of wailing are intoned there.
 In its midst there is lamentation, reed-(pipes) of wailing are intoned there.
 In it they (the people) pass their days in lamentation.
 Oh my son, you who are its native son by your own deserts, why should you wail?
 Oh Nanna [i.e., the Moon-god, patron-deity of Ur], you who are its native son by your own deserts, why should you wail?
 There is no turning back the completed judgement of the (divine) assembly!

The command of An and Enlil (heads of the pantheon) knows no overturning!
 Ur was indeed given kingship (but) an eternal reign it was not given.
 From time immemorial, since the nation was founded, until the people multiplied,
 Who has (ever) seen a reign of kingship that would take precedence (forever)?
 Its kingship, its reign is wearied in extending itself.
 Oh my Nanna, do not weary yourself more, leave your city!

Except for those that refer to Isin, they do not, like the city-laments, describe a specific, historical destruction or reconstruction and can better be regarded as “ritual laments.” They couched their complaints in such generalized language that they could be reused liturgically for many centuries. Indeed, some of the Old Babylonian examples of the genre recur in copies of the first millennium, and new examples were still being copied and perhaps even composed as late as the first century.

But the late *ershemmas* served a new purpose. Except when used in certain ritual performances (*KI.DU.DU* = *kidudû*), the first-millennium *ershemmas* were now appended to another genre, the song of the harp or lyre (*BALAG* = *balaggu*). Harp-songs were alluded to already in the third millennium and are known from a dozen actual examples in the second and from many more in the first. They included some of the longest of all Sumerian poems. They were divided into liturgical stanzas like the city-laments, but sometimes featured as many as sixty-five or more of them. Occasionally they were accompanied by glosses (marginal annotations) possibly representing musical notations or instructions. In their late form, each harp-song concluded with a tambourine-lament, and the resulting combinations were catalogued together as “39 lamentations of gods” (literally “of Enlil”) and “18 lamentations of goddesses” (literally “of Inanna”). All were written in dialectal Sumerian, but the first-

millennium recensions often added a word-for-word translation into Akkadian, which was inserted between the Sumerian lines in interlinear fashion.

A survey of the entire genre as well as the detailed history of particular examples shows clearly that these long compositions became increasingly repetitive; they were filled with stock phrases; and sometimes with whole stock-stanzas. The effect is best described as litany-like. That these compositions were employed in the liturgy is clear from cultic calendars that specified their recitation on certain days of the cultic year, sometimes in identical form for different deities on different days. In this way, their divorce from specific historical events became complete.

The genre known as “hand-lifting” laments (*ŠU.ÍL.LA*) consists of late compositions in dialectal Sumerian with an interlinear Akkadian translation. Like the tambourine-laments and harp-songs, these laments typically seek to appease an angry deity on behalf of the city, temple, and community. They are to be clearly distinguished from the Akkadian incantations of the lifting of the hand (see below) that deal with individual distress.

Unilingual Akkadian City-Laments

Although the liturgical lamentations in dialectal Sumerian often acquired (interlinear) translations into Akkadian in the first millennium (see

above), their format and style were not much favored in new Akkadian compositions. Occasional lament-like passages were embedded in other literary genres, as in the case of Marduk's "Lament over the Destruction of Babylon" found in the fourth tablet (chapter) of the *Myth of Erra*, which was composed toward the end of the second millennium (see "Myth and Myth-making in Sumer and Akkad" earlier in this volume). As late as the Seleucid period, an Akkadian text lamented the destruction of the cities in Sumer and Akkad, apparently at the hands of the Gutians. If it was alluding to the historical Gutian invasion in the third millennium, the lament may represent a late copy of a much earlier Akkadian original, or perhaps the Akkadian translation of a lost Sumerian original. More likely it was using the ethnic label in a purely geographical sense to designate any warlike enemy on the northern or eastern frontier. The text has also been regarded as "a neo-Babylonian lament for Tammuz," the Akkadian equivalent of the ancient Sumerian deity Dumuzi.

Dumuzi-Laments

Ever since the domestication of plants and animals in the early Neolithic period, Mesopotamian agriculture featured a mixed economy in which farmers and seminomadic pastoralists lived in an uneasy but interdependent symbiosis. During the late spring and summer, when vegetation dried up in the Tigris and Euphrates valleys, cattle and sheep were driven to the highlands in the east, where verdure continued to grow. Sumerian mythology equated these highlands or mountains (KUR in Sumerian) with the netherworld (likewise named KUR), and the seasonal cycle with cosmic events. The desiccation of the fertile soil was thought to reflect the banishment to the netherworld of the god of fertility. The rebirth of fertility in the winter (and early spring) echoed his return to the world of the living. Most often this god was called Dumuzi, whose name can mean "the healthy child," but other gods such as Damu, son of Nin-Isina, also filled the role. Dumuzi was the son of Duttur (or Ninsun), the brother of Geshtinanna, and the husband of Inanna. These goddesses (and others) figured prominently as reciters of lamentations designed to assure the return of the

deceased deity to the world of the living. Even Inanna, who, according to the mythology, was responsible for consigning Dumuzi to the netherworld in the first place, participated in these appeals. The "Death of Dumuzi" is recounted in a moving Sumerian lament and incorporated in a number of other compositions of a mythological character, such as "The Descent of Inanna," "Dumuzi's Dream," "Dumuzi and the GALLA-demons," and "Inanna and Bilulu."

The historical tradition knew of two mortals who also bore the name of Dumuzi, one a "shepherd" and ruler of Pa-tibira (or Bad-tibira) before the Flood, the other a "fisherman" and ruler of Uruk just before Gilgamesh. On the basis of late laments in which the divine Dumuzi is associated (or even identified) with other antediluvian kings, and of references to him in other laments as "shepherd," the earlier mortal (rather than the later one) may have served as prototype of the deity.

Laments for Kings

The deified Mesopotamian kings of the classical period (about 2250–1750) were considered standards for Dumuzi, especially in the rite of the "sacred marriage" and, albeit more rarely, in the ceremonies surrounding their death and burial. The death of kings was a major concern of Mesopotamian ideology, particularly if death was untimely or took a bizarre form. The topic was often addressed in the historiography, particularly in its characteristically Mesopotamian form of (historical) omens, which assumed connections between observed natural phenomena and historical events. At other times the issue was dealt with in the liturgy, if it can be assumed that some laments for Dumuzi were actually addressed to the newly deceased king. (See also "Theologies, Priests, and Worship in Ancient Mesopotamia" in Part 8, Vol. III, and "Love Lyrics from the Ancient Near East" in Part 9, Vol. IV.)

There were also a number of compositions mentioning the king by name. Their prototype may be "The Death of Gilgamesh," a Sumerian epic that details the legendary fate of this celebrated ruler of Uruk. Certainly this narrative has many points of resemblance with "The Death of Ur-Nammu," a poem about how the founder of the Third Dynasty of Ur met his death in

battle, a fate Mesopotamian kings normally reserved for their enemies. This lament composed for Ur-Nammu's burial was so moving and so personal in its language that it has sometimes been attributed to his widow.

Lamenting the death of Mesopotamian royalty was also noted outside of strictly literary texts. Thus, for example, the founder of the First Dynasty of Isin, which succeeded the Third Dynasty of Ur, was mourned in a "great wailing" (ÉR.GU.LA) according to a simple archival text that also records a banquet for his successor. Nabonidus, the last king of the last independent Mesopotamian dynasty, ordered a seven-day period of mourning for his mother when, in 547 BCE, she died at the venerable age of 104. This information is recorded in a short third-person subscript added to her lengthy autobiography, turning that monument into a funerary inscription, another genre occasionally attesting to laments for departed royalty.

INDIVIDUAL LAMENTS

Elegies

The destruction of cities or temples and the real or imaginary death of gods and kings were all alike cause for communal or congregational lament. The death of a private individual, however, or even the sickness or discomfiture of a king, were cause for individual lament. The death of individuals inspired the elegy, which is infrequently attested. Two such elegies, identified as I.LU (= *nubû* or *qubbû*), are attributed to a certain Lu-dingira ("man of God") and recited over his deceased father and wife, respectively. Lu-dingira is known from another text ("Message to His Mother") as a citizen of Nippur living in a distant country. It is possible that his elegies form part of a novelistic treatment of such life, and episodes of aristocratic life in Nippur are preserved in other genres. The fact that all six exemplars of the text appear to stem from Nippur may lend support to such a supposition. One of them, moreover, has interlinear glosses in Akkadian. The genre may have survived in unilingual form in "An Assyrian Elegy," by and for a woman who died in childbirth; in the "Lament of Gil-

gamesh for Enkidu," embedded in the eighth tablet of the *Epic of Gilgamesh*; and elsewhere.

Private Letter-Prayers in Sumerian

From a fairly early period on, the great gods of the Sumerian pantheon were imagined as having human form. They were so represented in the iconography, and human feelings were attributed to them in the religious literature. They were deemed subject to certain human weaknesses, such as anger or jealousy, and accordingly appeased by their mortal petitioners. Ideally, the penitent was expected to become a priest or other officiant in the temple, there to stand in permanent personal attendance on the deity, the latter represented by a divine symbol or, later, by an anthropomorphic statue. Where this was impossible, the same purpose could be served by replacing the worshiper with a statue depicting him in an attitude of permanent attendance on the statue of the deity in the temple. Stone carvers inscribed the statue with the name of the entreated deity and the name of the worshiper, as well as a formulaic prayer for the long life of the worshiper, his family, and his king. More modest votive objects could also be commissioned. These might be replicas in precious metal or in stone of tools, weapons, and other objects used in the daily life of the worshiper. But even such votive offerings were beyond the means of most people, who therefore made do with commissioning a scribe to write a clay tablet that was deposited at the feet of the divine statue. Private communication with the gods therefore typically assumed the form of a letter and the function of a prayer. The resulting genre can best be described as a letter-prayer.

Letter-prayers can be traced to the Neo-Sumerian period (end of the third millennium). They are directed to many of the great gods of the Sumerian pantheon, including Enki, Nanna, Nin-Isina, Martu, Nindinugga, and Ninshubur. Occasionally they may address a king or even a deceased(?) kinsman, but here, too, most probably in the form of their statues. The letter-prayers typically open with an elaborate salutation in which the deity is invoked by a series of epithets selected to emphasize those divine qualities that will best serve the petitioner's needs. Thus, the sick penitent may praise

“The Letter-Prayer to Enki”

To Enki, outstanding lord of heaven and earth whose nature is unequalled, speak!
 To Nudimmud, the prince of broad understanding who determines fates together with An,
 Who distributes the appropriate divine attributes among the Anunnaki, whose course cannot be reversed,
 The omniscient one who is given intelligence from sunrise to sunset,
 The lord of knowledge, the king of the sweet waters, the god who begot me, say furthermore!
 This is what Sin-shamukh the scribe, the son of Ur-Nin. . . , your servant, says:
 Since the day that you created me you have given me an education.
 I have not been negligent toward the name by which you are called, like a father . . .
 I did not plunder your offerings at the festivals to which I go regularly.
 But now, whatever I do, the judgment of my sin is not. . . .
 My fate has come my way, I am lifted onto a place of destruction, I cannot find an omen.
 A hostile deity has verily brought sin my way, I cannot find its side.
 On the day that my vigorous house was decreed by Heaven
 There is no keeping silent about my sin, I must answer for it. . . .
 I lie down on a bed of alas and alack, I intone the lament.
 My goodly figure is bowed down to the ground, I grovel at (people's) feet.
 My . . . is lifted from its place, my features are changed.
 Restlessness is put into my feet, my life ebbs away.
 The bright day has darkened for me, I slip into my grave.

I am a scribe, well versed in my craft, yet I have been turned into a dolt.
 My hand is fit for writing, but my mouth is inadequate for dialogue.
 I am not old, yet my hearing is heavy, my glance cross-eyed.
 Like an apprentice-diviner who has left his master's house I am slandered ignobly.
 My acquaintance does not approach me, speaks never a word with me,
 My friend will not take counsel with me, will not put my mind at rest.

The taunter has brought me to derision, my fate has made me strange.
 Oh my god, I rely on you, what have I to do with man?!

I am grown-up, how am I to spread out in a narrow place?
 My house is a plaited nest, I am not satisfied with its attractiveness.
 My built-up houses are not faced with brick.
 Like little (female) cedars planted in a dirty place, I bear no fruit.
 Like a young date-palm planted by the side of a boat, I produce no foliage.
 I am still young, must I walk about thus before my time?
 Must I roll about in the dust?
 In a place where my mother and father are not present I am detained, who will recite my prayer to you?
 In a place where my kinsmen do not gather I am overwhelmed, who will bring my offering to you?
 Damgalnunna, your beloved first wife,
 May she bring it to you like my mother, may she introduce my lament before you.
 Asalalimnunna, son of the abyss,
 May he bring it to you like my father, may he introduce my lament before you.
 May he recite my lamentation to you, may he introduce my lament before you.

Today let me take my sin to you, snatch me from the evildoer!
 When you have looked upon me in the place where I am cast down, have mercy on me!
 When you have turned my dark place into daylight,
 I will surely dwell in your gate of Guilt-Absolved, I will surely sing your praises!
 I will surely tear up my sin like a thread, I will surely proclaim your exaltation!
 As you reach the place of heavy sin, I will surely sing your praises!
 Release me at the mouth of the grave, save me at the head of my tomb!
 Then will I surely appear to the people, all the nation will verily know!
 Oh my god, I am one who knows reverence!
 Have mercy on the letter which I have deposited before you!
 May the heart of my god be appeased!

the healing capacities of the healing god or goddess, the man deprived of his patrimony may appeal to the deity's sense of justice, and the scribe undeservedly relieved of his duties may seek the wisdom of the scribal patron deity. While standard letters make do with one simple

salutation, the letter-prayers require a second and sometimes even a third salutation if they are to accommodate all these invocations. The body of the letter that follows prominently features the complaints and protests of the petitioner and reinforces the appeal for divine

assistance by emphasizing the deity's past favors and the penitent's past deserts and innocence. The conclusion of the letter-prayer may include promises to sing the deity's praises if the prayer is answered, as well as a closing formulaic request for quick action typical of normal letters, or a new formula praying that the heart of the deity be appeased.

Royal Letter-Prayers in Sumerian

Although in origin a private, and more economical, alternative to prayers inscribed on expensive statues and other votive objects, the letter-prayer came to be employed by royalty, especially under the Dynasty of Larsa before that city succumbed to Hammurabi. The earliest example of "The Royal Correspondence of Larsa" is an intriguing document that recounts how Sin-iddinam commissioned a statue of his father and royal predecessor so that the latter might "forward" the son's prayers, in the form of two letters placed in the statue's mouth, to the sun-god Utu, the patron deity of the dynasty. The same Sin-iddinam was responsible for at least two other letter-prayers, one to Utu to lament the evil fate that has befallen Larsa, and the other to the healing goddess for restoration of the king's health. The correspondence climaxes in a letter-prayer addressed, not to a deity but to Rim-Sin, last king of the dynasty. In it, the princess Nin-shatapada, daughter of the founder of the rival Dynasty of Uruk, begs Rim-Sin to restore her to her priestly office, urging him to treat her with the same magnanimity he displayed toward Uruk after defeating its king. The terms in which she writes mirror those employed in the date-formulas, inscriptions, and hymns of the dynasty. The incorporation of her letter-prayer in the correspondence of the dynasty suggests that the petition was granted.

Bilingual and Akkadian Letter-Prayers

Letter-prayers were not commonly written in Akkadian. The earliest example may be an Old Babylonian letter addressed to the writer's personal deity for transmittal to Marduk. Others come from Mari under Yasmakh-Adad and Zimri-Lim in the eighteenth century, and at least one of them is quite elaborately constructed. Zimri-Lim is also the addressee of a letter-

prayer, and this is in interlinear bilingual (Sumerian and Akkadian) form; whether it was an authentic letter or the creation of a learned scribe is not certain. The latter explanation seems to apply to some of the private letter-prayers known in Sumerian from the Old Babylonian schools at Nippur, Ur, and elsewhere, many of them involving a certain Lugal-murub of Nippur, and certainly to the bilingual letter to Lugal-murub—known from schools of Late Babylonian date in Assyria (Asshur), Anatolia (Khattusha) and Syria (Ugarit).

There are other examples of letters to and even from the gods from Old Babylonian to Neo-Assyrian times, but these cannot be said to function as prayers. The royal Assyrian letters to the gods, in particular, allow kings to report on their military triumphs in more imaginative style than the customary annals and other royal inscriptions. There is, however, one surviving example of the classical letter-prayer in late times. "The Appeal to Utu," originally created at Larsa by or for its king, Sin-iddinam, is reproduced in a bilingual letter from Sippar of uncertain date and in another exemplar from the seventh-century royal library at Nineveh. Babylon replaces Larsa of the original version, and a king whose name is lost no doubt replaces Sin-iddinam. So late a representative of the old genre encourages us to seek its echoes also in the Hebrew Bible (see below).

Bilingual Laments for Appeasing the Heart

The true successors of the Sumerian letter-prayers must be sought in another genre altogether. This is the ÉR.ŠÀ.ĤUN.GA, literally the "lament (ÉR) for appeasing (ĤUN.GA) the heart (ŠÀ) (of the angry deity)." Such laments typically conclude with the wish, "May your heart be appeased like that of a natural mother, like that of a natural father." This is a slightly expanded form of the most common ending of the earlier letter-prayers: "May the heart of my god (or king) be appeased." Other major characteristics of these laments also echo the earlier genre, abandoning only its epistolary format. In place of one or more salutations, these laments begin with a long invocation of the deity that stresses, like the earlier salutations, the divine qualities re-

sponsible for the penitent's distress or his hoped-for salvation. The worshiper catalogs his sins, typically in multiples of seven, while claiming ignorance of their specific nature. He promises to sing the deity's praises once he is forgiven and rescued or cured. The new genre begins to be attested in Old Babylonian times, probably at the end of the period. By the end of the Middle Babylonian period, King Tukulti-Ninurta was carrying off examples of the genre to Asshur, according to his epic, and at least one Middle Assyrian example is known from there.

The genre really became popular in the first millennium. At least 130 distinct compositions are known from surviving examples and from catalogs. They are addressed to at least fifteen different gods and six goddesses, as well as to "any god" or to a "personal god." Like the late congregational laments (above), they are recited by the lamentation priest. This priest is even described as "the one of the heart-appeasing lament" in "The Fashioning of the GALA (lamentation priest)," an Old Babylonian harp-song. Like other compositions in his repertoire, they are invariably composed in dialectal Sumerian and typically are provided with an interlinear Akkadian translation. One lengthy ritual text prescribes the recitation of numerous heart-appeasing laments together with congregational laments. Unlike those laments, however, the heart-appeasing laments are intensely personal in nature and are concerned with the fate not of city or country but of the individual penitent, even when, on occasion, that penitent is the king himself, repeating the lament after the priest like any private client.

Individual Prayer in Akkadian

The typical Mesopotamian gesture of prayer, lifting the hand to the mouth, is attested both linguistically and in art; it gave rise to a genre of "prayers (literally, incantations) of the lifting of the hand" (INIM.INIM.MA ŠU.ÍL.LA.KAM). Because they combine the form of an incantation with the function of a prayer, they are often referred to in German as *Gebetsbeschwörungen* (incantation-prayers); in English they are more often known as "prayers in rituals of expiation." Collectively, they constitute a late and wholly Akkadian means of communication with the di-

vine. They feature prominently a section devoted to complaint or lament, in which the individual penitent, speaking in the first person, or another party speaking on his behalf in the third, addresses the deity in the second. As in the earlier Sumerian and bilingual individual laments, these complaint sections are preceded by a salutation to the deity and introduction of the penitent. They are followed by rehearsals of his virtues, his specific request, and a conclusion that emphasizes his gratitude and vows to express it in material and other ways. Unlike the earlier Sumerian and bilingual individual laments, however, the late prayers include none, so far, on behalf of women.

Just Sufferer Compositions

All the genres so far reviewed are more or less liturgical in character. Apparently, they served as librettos for such activities as razing ruined temples prior to rebuilding them, praying for the resurrection of Dumuzi and the fertility he symbolized, burying a sovereign or a relative, or offering sacrifice for one's health and welfare. As such they belong to the broader category of prayers, individual or collective, and were presumably the product of the temples, and more particularly of such clerical poets as the lamentation priests. But here was also an avenue for a more philosophical approach to the problem of human suffering and the related one of divine justice. This literature of "theodicy" debated the goodness and omnipotence of the deity in the face of unpunished evil or unrequited good; it was unconnected with sacrifice, penitence, or any other liturgical rite or activity. Presumably the product of the scribal schools, it belonged to the broad category of wisdom literature (see "The Contemplative Life in the Ancient Near East" in Part 9, Vol. IV).

The theme of the "just sufferer" dealt with the apparent discrepancy between human deserts and divine rewards; if the sufferer was not wholly just, he was certainly more pious than many of those whose fortunes seemed better. While such themes are also raised in a number of letter-prayers and liturgical laments, they are central to a succession of wisdom texts, beginning with "Man and His God," sometimes regarded as a Sumerian parallel to the biblical Job. This composition is described in the colophon

of one of its exemplars as a “supplication-lament to a man’s (personal) god” (ÉR.ŠÀ.NE.ŠA₄ DINGIR.LÚ.LU_x.KAM), but no other examples of such a genre are known, and it may be questioned whether it is liturgical in character. Like the later Akkadian treatments of the theme, it has a fairly simple tripartite structure, beginning with a description of the sufferer’s condition, continuing with his complaints to the deity, and ending with divine relief or restoration.

The Akkadian treatments of the theme include one from the late Old Babylonian period, one from the late Middle Babylonian period discovered at Ugarit (in Syria), and two from the first millennium. The first of these is the “Poem of the Righteous Sufferer,” also known by its native title, *ludlul bēl nēmēqi* (“Let me praise the lord of wisdom [that is, Marduk]”). It is also sometimes called “The Babylonian Job.” The second is known as the “The Babylonian Theodicy.” Of these first-millennium examples, the former follows the traditional structure, although it is spread over four tablets (chapters) with more than a hundred lines each. The latter has a much more elaborate structure. It comprises twenty-seven stanzas of eleven lines each, and each of these eleven lines begins with the identical syllable. The twenty-seven successive syllables in turn form an acrostic that spells out the sentence “I am Saggil-kinam-ubbib the incantation-priest, worshiper of god and king.” The acrostic thus reveals (and at the same time conceals) the name of the author (who may be the sufferer himself) and asserts his religious and political loyalty lest the poem as a whole be thought to suggest otherwise. The poem features a dialogue between the sufferer and his friend. The latter, well-meaning but stubborn in his defense of divine justice, insists, against all evidence to the contrary, that suffering must always be deserved.

POSSIBLE BIBLICAL ANALOGUES

It is never easy to document the relationship between biblical and Mesopotamian literature, even in the presence of striking parallels between phrases, passages, or whole compositions on both sides of the equation. Wherever borrowing is suspected, it is necessary to ask where,

when, and even in what direction it might have occurred. If many centuries separate a notion that is shared by Mesopotamian and biblical literature, it may be that they both relied independently on a now-missing third source. As an example, we can mention the remarkably similar provisions concerning the goring ox in the “Laws of Eshnunna” (twentieth or nineteenth century BCE) and the Book of the Covenant (Exodus 21:28–36). But a more likely case for comparison exists when the Mesopotamian analogue, or at least its genre, survives in the Late Period. This is particularly the case with the various genres of lamentations.

The laments over the destruction of cities and temples, and their successors, the tambourine-laments and harp-songs, display many features in common with the biblical Book of Lamentations and with the congregational laments of the Psalter such as Psalms 44, 74, 79, 80, and 83. In both an angry deity has abandoned his city and caused or ordered its destruction, which he is invited to inspect. There are also features found in the Mesopotamian lamentations that are lacking in the biblical texts, such as the special laments attributed to goddesses and the appeal to lesser deities for their intercession. Laments for Dumuzi are, of course, absent from the Bible as such; but Ezekiel’s condemnation of the women who sat at the gate of the Temple “wailing for the Tammuz” (8:14) shows not only that the practice was known in the exilic period but that it was so widely accepted that Tammuz (the Akkadian name of Dumuzi) had become a generic noun in Israel. Of laments for kings, the outstanding biblical example is David’s lament for Saul and Jonathan, who perished in battle against the Philistines (2 Samuel 1:17–27). It belongs to a poetic genre (the *qînâ*) whose special meter has been linked to the peculiar dance accompanying a wake. Like some of its Mesopotamian analogues, it was entered in a larger written collection, the *Book of Jashar* (“Book of the Upright,” 2 Samuel 1:18) or, perhaps, the *Book of Song*, and it was to be taught to the Judaeans. Similarly, Jeremiah’s laments over King Josiah were entered in the anthology of *qînâ*-laments (2 Chronicles 35:25). The genre was also used to mourn nonroyalty, as in David’s brief lament for Abner (2 Samuel 3:33–34), an analogue of sorts to the Sumerian and Akkadian elegies for private individuals.

The royal letter-prayers in Sumerian find an echo in the Psalm of Hezekiah (Isaiah 38:9–20) who, like King Sin-iddinam of Larsa, pleads for divine release from illness by composing a prayer described as a *miktāb* (written document). It may be related to the genre of *miktām* in the Psalter (Psalms 16, 56–60) and to other forms of individual laments there. Like the late bilingual laments for appeasing the heart, the individual laments of the Psalter have lost the explicit epistolary structure and formulas of the earlier Sumerian letter-prayers, but they retain other echoes of possible prototypes in letter form.

The obvious parallels between the “Just-Sufferer” compositions in Sumerian and Akkadian and the biblical book of Job, including its ancient prose narrative frame, extend not only to their comparable treatments of a common theme but also, in the case of “The Babylonian Theodicy,” to the dialogue structure familiar from the poetic core of the book of Job. Thus, while there are undoubtedly universal elements in the language of lamentation everywhere, its particular evolution in Mesopotamia permits the reconstruction of genre histories. It also suggests the possibility that some features of this millennial tradition influenced biblical psalmody and wisdom literature before and during the exilic period (sixth century BCE).

BIBLIOGRAPHY

General Studies

THORKILD JACOBSEN, *The Harps That Once . . . Sumerian Poetry in Translation* (1987), contains a number of Sumerian texts sensitively translated and annotated. Relevant to this chapter are those translated on pp. 28–84, 357–74, and 445–84; JOACHIM KRECHER, “Klagelied,” *Reallexikon der Assyriologie*, vol. 6 (1980–1983), studies the lament as a literary type; and in JACK M. SASSON, ed., *Studies in Literature from the Ancient Near East* (1984), are discussed particular examples of laments on pp. 67–82, 143–48, 193–200, 211–215, 255–60, and 315–320.

Congregational Laments

FORERUNNERS IN MAIN-DIALECT SUMERIAN

JERROLD S. COOPER, *The Curse of Agade* (1983).

CITY LAMENTS IN MAIN-DIALECT AND DIALECTAL SUMERIAN

MARGARET W. GREEN, “The Eridu Lament,” *Journal of Cuneiform Studies* 30 (1978); SAMUEL N. KRAMER, “Keš and Its Fate,” *Gratz College Anniversary Volume*, edited by ISIDORE DAVID PASSOW and SAMUEL TOBIAS LACHS (1971), “The Weeping Goddess: Sumerian Prototypes of the *Mater Dolorosa*,” *Biblical Archaeologist* 46 (1983), and “Lamentation over the Destruction of Nippur,” *Acta Sumerologica* 13 (1991); and PIOTR MICHALOWSKI, *The Lamentation over the Destruction of Sumer and Ur* (1989).

TAMBOURINE-LAMENTS AND HARP-SONGS IN DIALECTAL SUMERIAN

BENDT ALSTER, “Edin-na ú-sag-gá: Reconstruction, History, and Interpretation of a Sumerian Cultic Lament,” *Rencontre assyriologique internationale* 32 (1985); JEREMY A. BLACK, “A-še-er Gi₆-ta, a Balag of Inana,” *Acta Sumerologica* 7 (1985); and “Sumerian Balag Compositions,” *Bibliotheca Orientalis* 44 (1987); MARK E. COHEN, *Sumerian Hymnology: The Eršemma* (1981), *The Canonical Lamentations of Ancient Mesopotamia*, 2 vols. (1988), and “A Bilingual Šuilla to Ningēštinanna,” in *DUMU-E₂-DUB-BA-A: Studies in Honor of Åke W. Sjöberg*, edited by HERMANN BEHRENS, DARLENE LODING, and MARTHA T. ROTH, Occasional Publications of the Samuel Noah Kramer Fund, vol. 11 (1989); JERROLD S. COOPER, “A Sumerian Šu-illa from Nimrud with a Prayer for Sin-šar-iškun,” *Iraq* 32 (1970), and “Warrior, Devastating Deluge, Destroyer of Hostile Lands: A Sumerian Šuilla to Marduk,” in *A Scientific Humanist: Studies in Memory of Abraham Sachs*, edited by ERIC LEICHTY, MARIA DE J. ELLIS, and PAMELA GERARDI, Occasional Publications of the Samuel Noah Kramer Fund, vol. 9 (1988); JOACHIM KRECHER, *Sumerische Kultlyrik* (1966); SAMUEL N. KRAMER, “Two British Museum iršemma catalogues,” *Studia Orientalia* 46 (1975), 48/3 (1977); RAPHAEL KUTSCHER, *Oh Angry Sea (a-ab-ba hu-luḫ-ḫa): The History of a Sumerian Congregational Lament* (1975); W. G. LAMBERT, “The Converse Tablet: A Litany with Musical Instructions,” in *Near Eastern Studies in Honor of William Foxwell Albright*, edited by HANS GOEDICKE (1971); and KONRAD VOLK, *Die Balaḡ-Komposition úru àm-ma-ir-ra-bi* (1989).

UNILINGUAL AKKADIAN CITY-LAMENTS

ALFRED POHL, “Die Klage Marduks über Babylon im Erra-Epos,” *Hebrew Union College Annual* 23, pt. 1 (1950–1951).

DUMUZI-LAMENTS

BENDT ALSTER, *Dumuzi's Dream: Aspects of Oral Poetry in a Sumerian Myth* (1972), and “A Dumuzi La-

Lamentations and Prayers in Sumer and Akkad

ment in Late Copies," *Acta Sumerologica* 7 (1985); and SAMUEL N. KRAMER, "The Death of Dumuzi: A New Sumerian Version," *Anatolian Studies* 30 (1980).

LAMENTS FOR KINGS

WILLIAM W. HALLO, "The Death of Kings," in *Ah, Assyria: Studies in Assyrian History and Ancient Near Eastern Historiography Presented to Hayim Tadmor*, edited by MORDECHAI COGAN and ISRAEL EPHAL, Scripta Hierosolymitana, vol. 33 (1991).

Individual Laments

ELEGIES

SAMUEL N. KRAMER, *Two Elegies on a Pushkin Museum Tablet: A New Sumerian Literary Genre* (1960); his "The GIR₅ and the ki-sikil: A New Sumerian Elegy," *Essays on the Ancient Near East in Memory of Jacob Joel Finkelstein* (= Memoirs of the Connecticut Academy of Arts and Sciences), edited by MARIA DE JONG ELLIS (1977); and ERICA REINER, *Your Thwarts in Pieces, Your Mooring Rope Cut: Poetry from Babylonia and Assyria* (1985).

PRIVATE LETTER-PRAYERS IN SUMERIAN

WILLIAM W. HALLO, "Individual Prayer in Sumerian: The Continuity of a Tradition," *Journal of the American Oriental Society* 88, no. 1 (1968), and "Letters, Prayers, and Letter-Prayers," *Proceedings of the Seventh World Congress of Jewish Studies*, 1977 2 (1981).

ROYAL LETTER-PRAYERS IN SUMERIAN

WILLIAM W. HALLO, "The Royal Correspondence of Larsa: I. A Sumerian Prototype for the Prayer of Hezekiah?" in *Cuneiform Studies in Honor of Samuel Noah Kramer*, edited by BARRY L. EICHLER, *Alter Orient und Altes Testament*, vol. 25 (1976), "II. The Appeal to Utu," in *zikir šumim: Assyriological Studies Presented to F. R. Kraus*, edited by G. VAN DRIEL (1982), "III. The Princess and the Plea," in *Marchands, Diplomates et Empereurs*, edited by D. CHARPIN and F. JOANNÈS (1991), and "The Expansion of Cuneiform Literature," *Proceedings of the American Academy for Jewish Research* 46-47 (1979-1980).

BILINGUAL AND AKKADIAN LETTER-PRAYERS

RYKLE BORGER, "Ein Brief Sin-iddinams von Larsa an den Sonnengott. Sowie Bemerkungen über 'Joins' und das 'Joinen,'" *Nachrichten der Akademie der Wissenschaften in Göttingen; I. Philologisch-*

historische Klasse (1991); and F. R. KRAUS, "Ein altbabylonischer Privatbrief an eine Gottheit," *Revue d'Assyriologie* 65 (1971).

BILINGUAL LAMENTS FOR APPEASING THE HEART

SAMUEL N. KRAMER, "The Fashioning of the *Gala*," *Acta Sumerologica* 3 (1981); STEFAN M. MAUL, *'Herzberuhigungsklagen': die sumerisch-akkadischen Eršahunga-Gebete* (1988); and PIOTR MICHALOWSKI, "On the Early History of the Eršahunga Prayer," *Journal of Cuneiform Studies* 39, no. 1 (1987).

INDIVIDUAL PRAYER IN AKKADIAN

RUDOLF MAYER, *Untersuchungen zur Formsprache der babylonischen "Gebetsbeschwörungen"* (1976); and CECIL J. MULLO WEIR, *A Lexicon of Accadian Prayers in the Rituals of Expiation* (1934).

JUST SUFFERER COMPOSITIONS

W. G. LAMBERT, *Babylonian Wisdom Literature* (1960); GERALD L. MATTINGLY, "The Pious Sufferer: Mesopotamia's Traditional Theodicy and Job's Counselors," in *The Bible in the Light of Cuneiform Literature: Scripture in Context III*, edited by WILLIAM W. HALLO, BRUCE WILLIAM JONES, and GERALD L. MATTINGLY, (1990); JEAN NOUGAYROL, "Une version ancienne du 'juste souffrant,'" *Revue Biblique* 59 (1952), and "(Juste) souffrant (R.S.25.460)," *Ugaritica* 5 (1968); and DONALD J. WISEMAN, "A New Text of the Babylonian Poem of the Righteous Sufferer," *Anatolian Studies* 30 (1980).

Possible Biblical Analogues

JEAN BOTTÉRO, *Le Problème du Mal et de la Justice Divine à Babylone et dans la Bible*, *Recherches et Documents du Centre Thomas More*, vol. 14 (1976); F. W. DOBBS-ALLSOPP, *Weep O Daughter of Zion: A Study of the City-Lament Genre in the Hebrew Bible* (1993); PAUL WAYNE FERRIS, *The Genre of the Communal Lament in the Bible and the Ancient Near East* (1992); WILLIAM C. GWALTNEY, "The Biblical Book of Lamentations in the Context of Near Eastern Literature," *Scripture in Context II*, edited by WILLIAM W. HALLO, JAMES C. MOYER, and LEO G. PERDUE (1983); and THOMAS F. MCDANIEL, "The Alleged Sumerian Influence upon Lamentations," *Vetus Testamentum* 18 (1968).

SEE ALSO **The Influence of Ancient Mesopotamia on Hellenistic Judaism** (Part 1, Vol. I) and **Hittite Prayers** (Part 8, Vol. III).

Death and the Afterlife in Ancient Mesopotamian Thought

JO ANN SCURLOCK

ANCIENT MESOPOTAMIANS' BELIEFS about death and the afterlife as well as their funeral and mourning practices are known to us from a wide variety of sources. For example, from ritual texts we are well informed of the funeral rites for an animal surrogate buried "as if it were human," the annual mourning rites for the god Dumuzi, and instructions for the expulsion or propitiation of unfriendly ghosts. Supplementing these ritual texts is an extremely rich archaeological record. In addition, many literary texts (such as the *Epic of Gilgamesh* and lamentations over the destruction of cities) grapple with the meaning of death, or describe mourning rites, or both. Some concern the fate of the dead in the netherworld; there are also a number of texts which were probably composed with a view to periodic recitation in connection with religious rites involving ghosts or dying gods, most notably the compositions known to us as *Gilgamesh*, *Enkidu*, and *the Netherworld*, *Ishtar's Descent to the Netherworld*, and *Nergal and Ereshkigal*. Supplementing these sources are grave inscriptions, economic texts recording disbursements for funerals or for the cult of the dead, and oblique references to death, funerals, ghosts, and related subjects in royal inscriptions and edicts, chronicles, royal and private letters, lexical texts, cultic

commentaries, magico-medical texts, omens, hymns, prayers, and even curse formulas. In addition to increasing the volume of data, the unusual variety of source material allows for the correction and interpretation of impressions gleaned from one source with the information given by the others, thus providing a more balanced and presumably more accurate picture of the whole. (See "Akkadian Literature: An Overview" in Part 9, Vol. IV.)

BURIAL RITES

Ancient Mesopotamian attitudes toward death and the deceased were shaped by, and reflected in, beliefs about the nature of the soul and the afterlife. For the ancient Mesopotamians, there were no messiahs, no new ages at the end of this world, no resurrection of the body and Last Judgment, no heaven or hell. Still, there was a sort of existence after death, although if one wished to participate in it, it was absolutely necessary that certain burial and mourning rites be properly performed.

Ideally, one would die surrounded by family and friends. One did not, however, necessarily

die in one's own bed. Rather, the dying person seems to have been moved onto a special funerary bed, to the left of which was set a chair. This chair apparently served as a seat for the soul to sit on after the recitation of a special formula had secured its release from the body. It also was a place where the soul could receive the first installment of the funerary offerings to which family ghosts were entitled.

In preparation for burial, the body was washed and the mouth tied shut. Then, the corpse was oiled or perfumed, dressed in clean clothing, and accompanied by as many personal items as the family could afford—weapons, toiletries, jewelry, and the like. The amount expended on the dead by surviving relatives could readily be judged by others, since the body and the goods destined for the tomb were laid out for public viewing a short time before the funeral. Members of the royal family, in particular, were expected to spend lavishly on funeral displays. Occasional finds, such as the discovery of the intact burials of Assyrian queens at Nimrud (Kalkhu), are our major source of knowledge about the techniques and capabilities of ancient metalsmiths. Here is Amir Harrak's description of some of the more spectacular pieces:

Each of a magnificent pair of cuffs made of heavy gold consists of a disk and a ring. They are inlaid with semi-precious stones protruding like large, bulging eyes. The disk is decorated with a round agate jewel placed in the centre; the jewel is surrounded with three circular bands, each formed with several inlaid rectangles separated by vertical bands. The space between the two largest bands is decorated with stars alternating with kneeling winged genii. . . . The edges of the ring are inlaid with semi-precious stones alternating with vertical gold bars. A row of inlaid tiger eyes are placed in the centre, surrounded by a frame of small rosettes. (p. 11)

Since the dead expected to journey to the netherworld, the grave goods had to include travel provisions; thus, many ancient Mesopotamian burials contained vessels that were originally filled with such comestibles as meat, fish, barley beer, dates, and yogurt. To facilitate the journey, the dead might also be provided with sandals or, if they were kings, with full-scale chariots to

convey them more speedily to their destination. We know from textual sources that it was also prudent to include offerings and gifts for the netherworld divinities so that they would more readily welcome the deceased upon his arrival at his new home.

At least in the ceremonial mourning for the god Dumuzi, some of the vessels used to make offerings to the deceased were broken, torches were carried three times round the funeral bed, and incense was burned, all presumably with a view to protecting the living from contamination by the dead. Niches for funeral lamps were discovered in the graves at Asshur (modern Qalat Sharqat) and Nimrud, and actual examples of such lamps were found at Ur (modern Tell al-Muqayyar). One imagines a lamp of this sort being set up next to the body (perhaps on the chair that served as a seat for the soul) and then being carried to the tomb and set in its niche, literally lighting the ghost's way to its final resting place. Also left in a special niche in the tombs of high-status individuals was a stone engraved with a funerary inscription.

Finally, the corpse was buried in the earth in a coffin, sarcophagus, or tomb. Those who were too poor to afford a deluxe burial were simply wrapped in a cloth or reed mat and provided with a few poor pottery vessels, stone beads, a copper pin, or the like. The sarcophagi of kings could be quite impressive; that of Assurnasirpal II was made of dolerite and measured no less than 12.5 feet (over 3.5 meters) long, 6 feet wide, and 6 feet high, with a diorite lid half a foot thick. Kings and some commoners (perhaps high-status individuals) buried their dead in individual or communal vaulted chambers laid below the floors of the house or palace. Those family members and servants who died at home would be buried in the family crypt; if the tomb was communal, the older bodies were simply pushed aside to make room for new arrivals. Other persons buried their dead in public cemeteries and consequently had to remunerate those who carried the corpse to its final resting place. There were also burial officials to be paid; their perquisites seem to have included the rights to the funerary bed and chair, as well as to the clothing in which the person died, which would have been removed when the body was washed. Re-

The Substitute King

If there was an eclipse of particular duration and character or some other cosmic sign which was, according to the lore of omenologists, a divine warning that the king was about to die a violent death, a substitute would be chosen to take the king's place. This substitute would wear the royal regalia and otherwise play the part of king while the real monarch continued to operate behind the scenes disguised as an ordinary person. In theory, the subsequent death and elaborate burial of the substitute would "take down the omens and the evils to the land of no return," thus guaranteeing the safety of king and country. However, at least once in Mesopotamian history, during the course of such a ritual, the real monarch, Erra-imitti of Isin

(circa 1868–1861), accidentally choked to death on hot porridge and the substitute, Enlil-bani, the gardener, refused to give up the throne, thereby becoming the next king (circa 1860–1837). It should be noted that the enthronement and execution of substitute kings was not an everyday occurrence nor even an annual event, as is sometimes asserted, but was practiced under unusual circumstances when it was necessary to avert a portended crisis of major proportions. If, for example, the king was simply ill and a sacrifice needed to be made to the netherworld to ransom his life, the surrogate was invariably an animal. (For more on substitute kingship, see the box accompanying the "Esarhaddon" chapter in Part 5, Vol. II.)

forming kings such as Uru-inimgina (Urukagina) of Lagash-Girsu (circa 2360 BCE) did their best to ensure that the amounts charged for such services were not exorbitant.

The final rite performed for the dead, at least when a substitute king was buried, was a burnt offering consisting of his throne, table, weapon, and scepter. It is hard to say whether such offerings were a feature of ordinary funerals; traces of burning have occasionally been found over nonroyal graves, but it is unclear whether these represent a burnt offering in the full sense of the word or just a few fires set to chase away carrion-eating animals.

The burial of substitute kings was exceptional in another regard: not only was the substitute himself dispatched to the netherworld with all the pomp and display characteristic of a royal funeral, but his consort (and retainers) were expected to accompany him as well. References to the funerals of such kings are our only textual evidence for the practice of human sacrifice in connection with burials in ancient Mesopotamia. (Claims to the contrary are based on a misinterpretation of a passage in the literary text known as the *Death of Gilgamesh*.) It is, therefore, possible that the famous "royal" cemeteries at Ur and Kish (modern Tell al-Uhaimir, Tell Ingharra), which are our only archaeological evidence for the burial of attendants with a human

king in ancient Mesopotamia, are to be understood as burial grounds for substitute kings.

MOURNING RITES

Accompanying the burial were mourning rites, which could last as many as seven days when the deceased was a prominent person. That such rites were important for the well-being of the deceased in the hereafter may readily be seen from the fact that when childless persons made arrangements for adopted heirs to care for them, they stipulated mourning as well as burial among the adoptee's obligations. It was not a comforting thought to imagine that one's mourning rites would end prematurely; the so-called Babylonian Job complains, "Before I had (even) died, the wailing (for me) had (already) finished." Apart from relatives, close friends were expected to make public display of their grief, as was the populace when the king, queen, or queen mother died. Professional mourners, both male and female, were available to swell the numbers of the grieving or to lead the laments; prostitutes seem occasionally to have been similarly pressed into this service. Although laments could be delivered a cappella, they might also be provided with musical or quasi-musical ac-

companionment, such as rhythmic beating of the breast.

A few texts of actual funeral laments have survived. Perhaps the most touching is this imagined dialogue between an Assyrian and his dead wife:

“Why are you cast adrift like a boat in the midst of the stream, your rungs broken, your ropes cut? Why, your face veiled, do you cross the river of Assur?” “How could I not be cast adrift, my ropes not be cut? On the day I bore fruit, how happy I was! I was happy; happy my husband. On the day of my labor pains, my face became darkened; on the day I gave birth, my eyes became clouded. With my hands opened (in supplication), I prayed to Bēlet-ilī, (saying): ‘You are the mother of those who give birth, save my life!’ (But) when Bēlet-ilī heard me, she veiled her face, (saying): ‘. . . why do you keep praying to me?’ . . . [In] those days (when) I was with my husband, (when) I lived with him who was my lover, death slunk stealthily into my bedroom. He made me leave my house; he separated me from my husband (and) set my feet to a land from which I will never return.”

(After Reiner, pp. 86–89, pp. 37–39)

In addition to expressing the grief of the mourners, funeral laments also eulogized the deceased. A particularly florid example of what the ancient Mesopotamians referred to as “exalting” or “honoring” the dead is to be found in the *Epic of Gilgamesh*:

Hear me, young men, hear me; hear me, elders of [Uruk]. I wail for Enkidu, my friend, like a professional mourner; I cry out bitterly. He was the axe at my side, so trusty to my hand, the sword at my waist, the shield in front of me. He was my festal garment, the girdle of my loins. But an evil [demon] appeared and took him away from me. My friend was a swift mule, a wild ass of the mountain, a panther of the steppe . . . (of) whom (it may be said that) we joined together and went up into the mountain, seized the Bull of Heaven [and killed it], (and) overwhelmed Humbaba, mighty king of the Cedar Forest. Now what is this sleep which has seized you? You have turned dark and do not hear me.

(After Kovacs, p. 70)

It was not enough to make lamentations; those who were in mourning were also expected to express their grief in the way they dressed. They had to lay aside their finery, tear their garments

or clothe themselves in sackcloth, remove their turbans or cover their heads with their garments, and go about unbathed and ungroomed. Fasting was another way of expressing one’s grief. Unlike some peoples, the ancient Mesopotamians did not frown at men who made a public display of their sorrow, but extreme forms of mourning such as tearing out the hair or scratching the cheeks and breast seem usually to have been left to women.

Mourning dress not only expressed respect but also helped to separate the dead from the living. Thus, when Enkidu tried (in direct defiance of Gilgamesh’s warning) to visit the netherworld dressed in a manner appropriate to the newly arrived dead (in a clean garment, anointed with fragrant oil, and wearing sandals), he quickly discovered that he was not allowed to return among the living. Once the dead was safely underground, prophylactic measures were no longer necessary; the end of the official mourning period was thus marked by ceremonies of purification and a return to normal dress and grooming habits.

THE AFTERLIFE

Provided that the burial and mourning rites were properly performed, one could be reasonably sure that the spirits of the dead were prepared for their arduous journey to the netherworld. In order to reach it, the newly deceased was required to cross the demon-infested steppe land; to pass over the Khubur River with the assistance of a personage variously known as Silushi/Silulim or Khumut-tabal (the latter name means “Quick, take [me] there!”), the Mesopotamian equivalent of Charon; and to be allowed through the seven gates of the netherworld city with the permission of the gatekeeper, Bidu (“Open up!” = Nedu). There was apparently also another road to the nether regions, taken by the occasional demon, by the dead returning home from their yearly visit to their families, and by babies on their way to be born: one traveled by boat down one of the rivers of the upper earth and across the *apsû* (the sweet waters under the earth and the second of the three nether regions of Mesopotamian cosmology) to the

lower earth, the realm of Ereshkigal, queen of the dead.

Although in some metaphysical sense, the netherworld was thus a great distance from the world of the living, in a physical sense it was simply underground. A hole of a decent depth (such as a foundation trench) was quite sufficient to reach it; heroes like Gilgamesh could almost touch it with the tips of their fingers. Thus, the practice of burying people in family tombs literally rejoined husbands and wives or fathers and sons who had been separated by death and ensured that the ghosts, who were believed to sleep in their graves, were not disturbed.

Locating the hereafter in the bowels of the earth (rather than up in the sky) also had the consequence of its being represented as a rather gloomy and dreary place. Visitors descended

to the dark house, the abode of Irkalla, to the house which none leaves who has entered it, to the road from which there is no way back, to the house wherein the entrants are bereft of light, where dust is their fare and clay their food, (where) they see no light, residing in darkness, (where) they are clothed like birds, with wings for garments, (and where) over door and bolt is spread dust.

(From *Ishtar's Descent to the Netherworld*,
After Sladek, p. 251)

The passage quoted is a prototypical report about visiting the netherworld, but it is not entirely representative of life in the hereafter. As often happens to modern tourists upon arriving in a new locale, the visitor's first impression was of strange, unpleasant sights and of hordes of beggars; only after a period of adjustment did the full complexity of local society become apparent. In fact, the nether regions were not invariably gloomy; the sun-god, Shamash, visited them every day on his circuit round the sky, bringing them light while the earth above was in darkness. Neither were the average denizens of the netherworld reduced to eating mud; rather, they lived a shadowy imitation of life on earth, eating bread, and drinking clear water, and they did so under the supervision of a state structure similar to that of the upper world, complete with a full court system, a presiding royal couple (Nergal and Ereshkigal) who lived in a lapis-lazuli palace and dressed in royal regalia, and all of the attendant bureaucracy.

Some accounts, especially the dream visit of the Assyrian prince Kamma, describe various demons and members of this netherworld bureaucracy:

I saw Namtaru [Namtar], the vizier of the netherworld . . . and a man stood before him. He (Namtaru) was grasping the hair of his (the man's) head in his left hand and a dagger in his right. . . . Namtartu, his wife, had the head of a *kuribu* (= Hebrew *kěrûb*; Latin *cherub*); the hands and feet were human. Death had the head of a dragon; his hands were human, his feet . . . Khumut-tabal, ferryman of the netherworld, had the head of an Anzu-bird; his four hands and feet . . . Bidu (Nedu), door-opener of the netherworld, had the head of a lion; his hands were human, his feet those of a bird. . . . There was a man—his body was black as pitch; his face resembled that of the Anzu-bird (and) he was dressed in a red cloak. In his left hand he was carrying a bow; in his right hand he was grasping a dagger (and) he trampled a snake [with] (his) left foot. When I raised my eyes, there was valiant Nergal sitting on a royal throne, crowned with the royal tiara, grasping in both his hands two grim maces, each with two . . . heads. . . . The Anunnaki, great gods, knelt to (his) right and left.

(After Livingstone, 71f.)

This rather chauvinistic account gives far too great an importance to Nergal at the expense of Nergal's wife, Ereshkigal. In fact, as we know from the myth of *Nergal and Ereshkigal*, she was already in charge of the netherworld while he was still a heavenly god. Nergal came to be king of the "great below" in a rather roundabout manner; he was warned not to accept Ereshkigal's hospitality, but although he could resist her cooking, he was lost when she took her clothes off and displayed her charms. Seven days later, he tried to escape, but it was too late. Ereshkigal, who was by no means satisfied with the marathon session of lovemaking that she had just enjoyed and was eager for more, demanded that he be sent back to her, and her request was granted. In many of our sources, it is not Nergal but Ereshkigal who is described as presiding over the court of the Anunnaki, the primary function of which seems to have been to welcome each ghost, to instruct him as to the rules of the netherworld, and to assign him his place there. To this end, the female scribe of the nether-

world (known variously as Geshtinanna, Beletseri, and Dimpikug), the wife of Ningishzida (also called Gishzida or Gizzida, the chair-bearer of the netherworld), checked the names of new arrivals against a master list so that extraneous visitors from the upper world (like the dreaming Enkidu) could immediately be recognized and turned away.

In addition to this court of the Anunnaki, there were two other netherworld courts. Very little is known about the court presided over by the hero Gilgamesh; perhaps this was where ghosts or demons took each other to book when offenses were committed in the netherworld. In addition, there was a court presided over by the sun-god, Shamash, whose daily circuit gave him jurisdiction in both the upper and lower worlds. It was to this third court that problems of interaction between the dead and the living were apparently appealed; not only did Shamash punish ghosts who unjustly pestered the living, but he also saw to it that lonely and forgotten ghosts got the funerary offerings to which they were entitled.

None of the netherworld courts rendered anything resembling the Last Judgment of the Christian tradition. There is no intimation that the Anunnaki took either earthly sins or earthly virtues into consideration when assigning slots to the dead; the worst that could happen to a sinner was that the netherworld gods would refuse to admit him, thus condemning him to sleeplessness and denying him access to funerary offerings. Otherwise, foreigners were not automatically excluded from rest in the Mesopotamian netherworld; even lepers had their place there (although they were kept separate from the other dead), as we know from a myth that recounts what happened when Gilgamesh's friend Enkidu was permitted by the gods to return briefly from the dead and to report to him on the fate of those below.

CULT OF THE DEAD

In ancient Mesopotamia, the happiness of the dead in the netherworld was directly proportional to the quality and quantity of funerary offerings made to them by the relatives whom

they had left behind in the upper world. This was especially true in the case of kings, whose deluxe treatment in the netherworld (they could expect to spend the afterlife serving delectable meat dishes and baked goods to Ereshkigal and her court) corresponded quite neatly to the deluxe set of offerings that they continued to receive on earth. The same may also be said of war heroes and stillborn children; the former (who are described as resting on couches attended by their families) seem to have received special offerings in connection with the royal cult, whereas the latter (who are described as playing "on a table of gold and silver with honey and flowing beer") had shrines dedicated to their collective spirit (*kūbu*).

The principle is, however, most clearly expressed in the case of ordinary persons, as in this passage from *Gilgamesh, Enkidu, and the Netherworld*:

(Gilgamesh:) "Have you seen him whose ghost has no one to care for him?"

(Enkidu:) "I have seen him. He eats what is scraped out of cooking pots (and) crusts of bread which are thrown into the street."

"He who had one son—have you seen (him)?"

"I have seen (him). He weeps bitterly at the nail which was driven into his wall."

"He who had two sons—have you seen (him)?"

"I have seen (him). He sits on two bricks and eats bread."

.....
 "He who had seven sons—have you seen (him)?"

"I have seen (him). As a companion of the gods he sits on a chair and listens to music."

(After Shaffer, pp. 116–117, 118–119)

In order to ensure the dead access to the Mesopotamian afterlife, it was therefore necessary to provide them with a continuous series of funerary offerings. The eldest son of the deceased held primary responsibility for performing this duty, which is presumably why he also customarily received an extra share of the inheritance. In the royal cult, regular offerings were made individually to all ancestors of the reigning king. For ordinary people, however, only those of the dead who were personally known to their descendants—that is to say, fathers and mothers, brothers and sisters, and grandfathers and grandmothers—seem to have retained their indi-

viduality after death; more distant relatives apparently merged together into a sort of corporate ancestor.

In the cult of deceased royalty, offerings were made at new moon and full moon; for ordinary people, however, funerary offerings seem to have come due at the end of the month, with an especially long celebration in the month of Abu (July/August). In the royal cult, a great variety of foodstuffs were offered; the family ghosts of ordinary people could expect to receive cold water, bread, hot broth, beer flavored with roasted grain, flour, oil, wine, honey, and occasionally the rib section of a sacrificed animal. Such offerings might simply be laid out or, in the case of the liquids, actually poured down a pipe laid in the earth for the purpose.

In order to ensure that the ghosts actually received what was intended for them, it was customary to invoke their names while making offerings. A statue of the deceased could also serve to localize the spirit for funerary offerings. To this end, statues were sometimes manufactured in connection with a funeral; in other cases, the necessary statue may already have served to represent a worshiper continually before the gods during his lifetime. Funerary-cult statues are best attested for kings, but important officials might also be permitted to have one as a sign of royal favor.

For most of the year, ghosts were shut up behind the gates of the netherworld and quietly received what was laid out or poured out for them by their relatives. Several times a year, however, they were allowed to leave their homes in the netherworld and to come back for short visits. At the end of the legend of *Ishtar's Descent to the Netherworld*, it is mentioned that not only does Dumuzi return every year but also the dead are to "come up and smell the incense" during Dumuzi's festivities (27–29 Du'uzu [June/July]). There was also a general return of the dead in Abu (July/August), as we know from occasional references to ghostly activity in that month. In all probability, this festival also took place at the very end of the month, perhaps on 27–29 Abu.

In the course of these festivities, the ghosts seem to have been entertained with food offerings before being sent home to the netherworld on boats floated down the river. It may be that

Gilgamesh, Enkidu, and the Netherworld was intended to be recited in connection with this visit of the dead. Its introduction certainly gives a splendid picture of the riverine access road to the netherworld:

When he set sail, when he set sail, when father (Enki) set sail for the netherworld, when Enki set sail for the netherworld, at the king the small ones storm, at Enki, the large ones storm. The small ones are stones of (a size that can be grasped in) the hand; the large ones are stones (large enough) to make the reeds dance. On the keel of Enki's . . . boat, they pour down like bobbing turtles. At the king, the water at the bow of the boat laps round like a devouring wolf; at Enki, the water at the stern of the boat smites like a lion.

(After Shaffer, pp. 99–100)

Other sources indicate that the end of the month of Abu provided a favorable opportunity to ask dead relatives to stop bothering their kin, to persuade them to take along evils as they returned to the netherworld, and to consult them for supernatural advice. Instructions accompanying necromantic incantations indicate that the favored method of consulting ghosts involved the preparation of an ointment. This salve—which might contain any one of a variety of ingredients, including such oddities as centipede dust, frog intestines, lion fat, and goosebone marrow—was smeared on the practitioner's face in order to make the ghost visible to him so that he could converse freely with it. Alternatively, a salve might be rubbed on a figurine or skull that served as a housing for the ghost. If the ointments failed in this rather dangerous pursuit, the practitioner was advised to perform a special type of apotropaic ritual (called in Sumerian NAM.BÚR.BI). For those interested in such consultations, professional ghost raisers were available and could be hired.

GHOSTS

As long as offerings continued without interruption, a ghost could be kept more or less at peace. In their absence, the ghost was reduced to a pitiful beggar's existence. The dead who were not properly buried were not only denied the benefit of the customary burial and mourning

rites but also had their bones scattered by scavenging animals. The anger and resentment resulting from such treatment turned an otherwise friendly ghost into a vicious demon. Equally vengeful were persons who had died violent and unhappy deaths, before they had had the opportunity to live out a normal life span on earth. When such ghosts had been kings who were killed in a palace coup, extreme measures might be necessary. Thus, Assurbanipal slaughtered captured Babylonians on the very spot where his grandfather Sennacherib had been assassinated, as a funerary offering to Sennacherib's restless ghost.

Enumerations of types of restless ghosts provide an interesting cross section of dreaded fates:

(ghost of) a malformed fetus, or a stillborn child that was not buried in a grave;

(ghost of) a wet-nurse who died from a breast infection;

(the ghost of) one who slipped off a date palm;

(ghost of) a mighty person whom they killed with a weapon;

a ghost who died as a result of a sin against a god or an offense against the king;

(ghost of) one who died from famine and imprisonment; (ghost of) one who died of thirst and imprisonment;

a ghost who was roasted in a fire or a ghost who died of a chill;

the (ghost of) one who went down in the river or (the ghost of) one who went down in a boat (and) died or (the ghost of) one who went down in the midst of the sea in a boat;

(ghost of) one whom (the storm-god) Adad flattened in the steppe.

(From various magical texts)

Noticeable by their absence from the above list are three classes of persons who might have been expected to produce angry ghosts: those who committed suicide, young persons of marriageable age who died unmarried, and women who died in childbirth. Suicide, as described in ancient Mesopotamian sources, is not an act of defiance against the gods or even of vengeance on those who are thought to have wronged a person but a means of retrieving honor, which

might account for its absence. Dying in childbirth, like dying in battle fighting for one's king, may not have been a fate that automatically resulted in an angry ghost.

The same cannot be said of those who died unmarried. Their fate was to join a special class of demons called the *lilû* (female *lilitu*, or more commonly *ardat lilî*, or "*lilû's girl*"). *Lilû* and *lilitu* demons slipped through windows into people's houses looking for victims to fill the role of the husbands and wives whom they had never had. Such demons approached the living very persuasively: " 'I am the son of a prince,' he tells her. 'I will fill your lap with silver and gold. You be the wife, and I will be your husband,' he tells her. 'I will make your riches (as abundant) as the fruit of the garden.' " If proper precautions were not taken, the victim would soon be carried off to an early death to form the next generation of *lilû* and *lilitu* demons.

Unfriendly ghosts are described as pursuing, seizing, binding, or even physically abusing their victims; they did not, however, need to confine their persecution to victims' exteriors, but could also get inside them via their ears. Ghosts might also annoy people by making unwelcome appearances in their houses, by accosting them in the streets of the city, or by haunting their dreams.

For ancient Mesopotamians, a "ghost" (*etemmu*) was not quite the same thing as a "dead person" (*mîtu*), although the two terms are often used interchangeably. A *mîtu* was apparently fully human in appearance (if sometimes skeletal), whereas the *etemmu* was not. When the Assyrian prince Kumma visited the netherworld, he discovered that "the *etemmu* had an ox's head, his four hands and feet were those of human beings." This bucephalic appearance presumably accounts for the fact that the Sumerian logogram for "ox" (GUD) is occasionally used for *etemmu* and that ox horns or hoofs are frequently employed when making offerings to strange ghosts.

Persons who had for some reason to travel through uninhabited areas were particularly liable to attack, as was anyone ill-graced enough to wash himself over a grave. Ghosts did not always attack their victims on their own initiative; sorcerers were often suspected of using ghosts to do their dirty work. In addition, the gods sometimes punished sinners by sending

ghosts to haunt them; this particular sanction was especially appropriate for murderers.

Even the most unhappy of specters could be rendered harmless with the appropriate magical treatment. Methods of dealing with bothersome ghosts included the tying of magic knots or the manufacture of other amulets, the smearing on of magic ointments, the drinking of magic potions, the surrogate burial of a figurine representing the ghost, and the pouring out of libations while reciting incantations.

Offerings to strange ghosts (not including out-fitting for figurines and travel provisions) usually consisted of various types of water, vinegar, watered beer, ashes, and breads or flour made from roasted grain, especially *šigūšu* flour. These offerings were considerably less expensive, as well as less appetizing, than those made to the family ghosts, which were in turn less expensive and less appetizing than those made to the gods invoked in ghost-expelling texts, a progression that reflects both the relative desirability of

How to Expel a Ghost

If a ghost has seized a man (and) continually follows him or if an *alû*-demon [or a *gallû*-demon] or a *mukil rēš lemutti*-demon has seized him, or generic evil continually seizes him or [pursues him], you take dirt from an abandoned town, dirt from an abandoned house, dirt from an abandoned temple, dirt from a tomb, dirt from foundations(?), dirt from an abandoned canal, (and) dirt from a road. You mix (them) together with ox blood. You make a figurine of generic evil. You clothe it with the skin of a lion. You thread carnelian (and) put it on its neck. You provide [it] with a waterskin and give it travel provisions.

For three days, you put out nine dishes of barley gruel before it as its food ration. You stand it up on the roof of the patient's house and then you stir flour made from roasted grain into water and beer and you pour out a libation for it. You plant three cedar shavings around it. You surround it with a magic circle. You put an unbaked fermenting vessel over it as a cover. Let Shamash (i.e., the sun) see the fermenting vessel by day; let the stars see it by night.

For three days, (by) day, the exorcist . . . (and) sets up a censer (filled with burning) juniper before Shamash; by night, he scatters emmer flour before the stars of the night. For three days, before Shamash and the stars, he repeatedly recites (the following) over it: "Ghost (or) whatever is evil—from this day forward, you are extracted from the body of so-and-so, son of so-and-so; you are expelled; you are driven away and banished. The god who put you in place, the goddess who put you in place—they have removed you from the body of so-and-so, son of so-and-so, the patient."

On the third day, in the late afternoon, you set up an offering table before Shamash. The patient raises the figurine and then you have him speak as follows

before Shamash: "Shamash, noblest of the Anunnaki, lordliest of the Igigi, august leader, ruler of the people, judge of heaven and earth, whose command is unalterable, Shamash, who keeps the darkness in order (and) who establishes light for the people, Shamash, at your setting, the light of mankind diminishes; Shamash, at your rising, the regions brighten; the homeless girl, the widow, the waif, and the female companion—all mankind warms itself at your emergence; the wild animals, living creatures, beasts of the steppe, continually bring you their lives and limbs. You decide the case of the wronged man and woman; you make their decisions go aright.

"I am so-and-so, son of so-and-so; I kneel in exhaustion. For me, whom an obligation has bound as a result of the anger of god and goddess, an *utukku*-demon, a *rābišu*-demon, a ghost, (and) a *lilû*-demon have weighed out paralysis, convulsions, limpness of the flesh, vertigo, arthritis, (and) insanity, and daily they cause me to have convulsions. Shamash, you are the judge and I have brought you my life. I kneel for judgment of the case concerning the sickness which has seized me. Judge my case; make a decision about me. Until you cause my case to be decided, you shall not give [a decision] for [any other] case. After you have caused my case to be decided, (and after) my obligation has let me go (and) fled [from] my body, wherever I put my trust, let (those) gods come to agree with what you say. [May the heavens be pleased with] you; may the earth rejoice in you."

You have him (the patient) speak [thus]. You put it (the figurine) in a jar and then you administer an oath to it. You say "[By earth may you swear]; by heaven may you swear; by Shamash may you swear," and then you close its (the pot's) mouth. . . . You bury it (the pot) in an abandoned waste. (Scurlock, pp. 218–221)

contact between men and these three classes of supernatural beings and the amount of benefit expected to flow from such contact.

Given that the chances of a ghost actually receiving the necessary funerary offerings in perpetuity was rather remote, there would soon have been more wretched beggars and angry ghosts than happy ancestors. Moreover, the dead would have dangerously outnumbered the living if there had not been a mechanism by which old souls were recycled as new human beings. Childbirth incantations describe the baby in the amniotic sac as a "boat" that the mother has loaded with precious substances (representing the child's gender) and that is sailed from the "quay of death" (namely, the netherworld) across the *apsû* (namely, the amniotic fluid) to the "quay of life" (that is, birth in the upper world).

SOULS AND SPIRITS

The ghost (*eṭemmu*) was closely associated with a person's physical remains. In some contexts, it is spoken of as if it were identical with the corpse, as when *eṭemmu*s are described as "sleeping" in their graves or lying about unburied. In fact, it was a constituent element of the corpse proper (*pagru*), having its origin in the fact that a god was slaughtered and his flesh and blood mixed with mortal clay in order to create mankind. (See "Myth and Mythmaking in Sumer and Akkad" earlier in this volume.)

In addition to having an *eṭemmu*, a living being was possessed not only of what we might refer to as his "life force" (his "breath," or *napiš-tu*) but also of another windlike emanation, namely the *zāqīqu* (or *zīqīqu*). This spirit was imagined as a sexless (and probably birdlike) phantom able to flit about or slip through small apertures, and as such, it became associated with dreaming, because it could safely depart the body when one was asleep. The contrast between *eṭemmu* and *zāqīqu* thus roughly corresponds to the distinction, found in the folklore of other cultures, between a "free" or "dream" soul on the one hand and a "body spirit" on the other. In short, the *zāqīqu* is the closest ancient Mesopotamian equivalent to the modern concept of the "soul."

Both the *zāqīqu* and the *eṭemmu* descended

to the netherworld after death; apart from descriptions of dreams, however, one hears considerably more in ancient Mesopotamian literature about the *eṭemmu* than about the *zāqīqu*. This is presumably because the latter was considered relatively harmless; indeed, Assyrian kings went to some trouble to reduce their enemies to *zāqīqu*s by indiscriminately mixing their mutilated physical remains together in mass graves or even by crushing their bones in a mortar. To put it another way, when the body ceased to exist, so did the potentially harmful *eṭemmu*, leaving only the shadowy *zāqīqu* to flit about haunted places or to lurk at the entrance to the netherworld until the time came for the cycle of life and death to begin again. The converse of this was, however, that the *zāqīqu* was not in a position to interfere positively in human affairs, which accounts for the care taken in preserving the bones of familial dead and for the fact that it was *eṭemmu*s, not *zāqīqu*s, from whom aid was requested with prayer and funerary offerings.

ATTITUDES TOWARD DEATH

For the ancient Mesopotamians, death, even if it ultimately meant personal annihilation, did not represent an instantaneous end to earthly existence. Rather than a sudden and complete break, dying involved a shading-off or gradual weakening of connections between the deceased person and the world of the living. Those who died became first corpses and then ancestors dependent on the funerary offerings that made it possible for them to participate in the Mesopotamian afterlife. Several generations later, individually remembered ancestors were transformed into collective ancestral spirits until, ultimately, all that was left of a person was a ready-to-be-recycled soul.

Nonetheless, "unnatural" (literally, "non-fated") deaths were much dreaded and even a "natural" end was not necessarily welcome. Descriptions of an individual's personal fate-demon (*namtaru*) hardly paint an enticing picture of death:

Evil *namtaru* who burns the land like fire; *namtaru* who approaches the man like an *asakku*-demon; *namtaru* who flits about in the steppe like a *zāqīqu*; *namtaru* who takes hold of the man like an evil

Death and the Afterlife in Ancient Mesopotamian Thought

(thing); *namtaru* who afflicts the man like *li'bu*-sickness; *namtaru* who has no hands or feet (and) goes about in the night; *namtaru* has cut off the patient as one would a leek (and) bound his limbs. (From the demonological series "Evil Demon")

To speak of death was to summon it, and hence the need for a host of euphemisms: "to cross the Khubur"; "to go up to/toward heaven" (said only of kings of the Third Dynasty of Ur); "to go to one's fate"; "to be invited by one's gods"; "to come to land on/reach/take refuge in one's mountain"; "to go on the road of one's forefathers."

In the last analysis, the ancient Mesopotamians were realists for whom death was a fact of life that even heroes had to accept:

Where are you roaming, Gilgamesh? The life which you seek you shall not find. When the gods created men, they set aside death for mankind and kept eternal life in their own hands. For how long can we build houses? For how long can we seal contracts? For how long can brothers divide (an inheritance)? . . . From days of old, there has never been anything (eternal). The sleeping and the dead, how alike they are, and yet (even) they do not draw a (full) picture of death.

(After Kovacs, pp. 93-94)

BIBLIOGRAPHY

Translations from Akkadian are by this essay's author.

Sources

STEPHANIE DALLEY, *Myths from Mesopotamia* (1989); DIETZ OTTO EDZARD, "Gilgameš und Huwawa A. II. Teil," *Zeitschrift für Assyriologie* 81 (1991); ABDULLAH FADHIL, "Die Grabinschrift der Mullissumukannišat-Ninua aus Nimrud/Kalḫu und andere in ihrem Grab gefundene Schriftträger," *Baghdader Mitteilungen* 21 (1990); ARNDT VON HALLER, *Die Gräber und Gräfte von Assur*, Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft 65 (1954); and AMIR HARRAK, "The Royal Tombs of Nimrud and Their Jewellery," *Bulletin of the Center for Syro-Mesopotamian Studies* 20 (1990).

MAUREEN GALLERY KOVACS, ed. and trans, *The Epic of Gilgamesh* (1989); SAMUEL NOAH KRAMER, "The Death of Gilgamesh," *Bulletin of the American Schools of Oriental Research* 94 (1944), and "The Death of Ur-Nammu and His Descent to the Netherworld," *Journal of Cuneiform Studies* 21 (1967).

ALASDAIR LIVINGSTONE, ed., *Court Poetry and Literary Miscellanea*, State Archives of Assyria 3, no. 32 (1989); J. MCGINNIS, "A Neo-Assyrian Text Describing a Royal Funeral," *State Archives of Assyria Bulletin* 1 (1987); and ERICA REINER, *Your Thwarts in Pieces, Your Mooring Rope Cut: Poetry from Babylonia and Assyria* (1985).

AARON SHAFFER, "The Sumerian Sources of Tablet XII of the Epic of Gilgameš" (Ph.D. diss., University of Pennsylvania, 1963); WILLIAM SLADEK, "Inanna's Descent" (Ph.D. diss., Johns Hopkins University, 1974); FRANÇOIS THUREAU-DANGIN, "La Passion du dieu Lillu," *Revue d'assyriologie* 19 (1922); and LEONARD WOOLLEY and MAX MALLOWAN, *The Old Babylonian Period*, Ur Excavations 7 (1976).

Studies

TZVI ABUSCH, "Mesopotamian Anti-Witchcraft Literature: Texts and Studies. Part I: 'The Nature of Maqlû,'" *Journal of Near Eastern Studies* 33 (1974); BENDT ALSTER, ed., *Death in Mesopotamia*, 26^e Rencontre Assyriologique Internationale, Mesopotamia 8 (1980); and JEANNE-MARIE AYNARD, "Le Jugement des morts chez les Assyro-Babyloniens," *Le Jugement des morts*, Sources Orientales, vol. 4 (1961).

HANS MARTIN KÜMMEL, *Ersatzrituale für den hethitischen König*, Studien zu den Boğazköy-Texten 3 (1967); A. LEO OPPENHEIM, *The Interpretation of Dreams in the Ancient Near East*, Transactions of the American Philosophical Society 46, part 3 (1956); JO ANN SCURLOCK, "Magical Means of Dealing with Ghosts in Ancient Mesopotamia" (Ph.D. diss., University of Chicago, 1988); and EVA STROMMENCER, "Grab (I. Irak und Iran)," in *Reallexikon der Assyriologie*, vol. 3 (1957-1971).

JOSEF TROPPEL, *Nekromantie*, Alter Orient und Altes Testament 223 (1989); AKIO TSUKIMOTO, *Untersuchungen zur Totenpflege (kispum) im alten Mesopotamien*, Alter Orient und Altes Testament 216 (1985); and EGBERT VON WEIHER, *Der babylonische Gott Nergal*, Alter Orient und Altes Testament 11 (1971).

SEE ALSO *Palaces and Temples in Ancient Mesopotamia* (Part 4, Vol. I); *Death and the Afterlife in Hittite Thought* (Part 8, Vol. III); *Witchcraft, Magic, and Divination in Ancient Mesopotamia* (Part 8, Vol. III); and *The Gilgamesh Epic: A Masterpiece from Ancient Mesopotamia* (Part 9, Vol. IV).

Witchcraft, Magic, and Divination in Ancient Mesopotamia

WALTER FARBER

MESOPOTAMIAN RELIGIOUS beliefs are not easy to understand for people of our times, steeped in Western culture and imbued with what we call "enlightenment." We are used to thinking in categories of opposites, such as monotheism and polytheism, god and devil, religion and magic, faith and superstition, priest and layperson, and medical science and quackery. It is hard for us to cope with a system that in general fails to make such clear distinctions. In texts from ancient Mesopotamia, we might, for instance, encounter a "priest" engaged in very diverse functions. In one text, he might be performing the daily ritual of a specific temple or god, while in another, he may be working as a scholar or physician, poring over pharmaceutical handbooks and trying to find the right prescription for a sick person in his neighborhood. A third text could well show him engaged in an apotropaic ritual to avert the evil portended by a lizard seen in his own bedroom, reciting an incantation to soothe a crying baby, or copying and editing the text of a recently composed hymn to the sun-god. Although for him all these activities clearly belonged to the realm of "religion," they might well end up being described in four or five different chapters of a twentieth-century cultural history of Mesopotamia, under headings as di-

verse as "Magic," "Science," "Medicine," "Literature," and "Religion."

When dealing with such texts, we therefore have to keep in mind that all manifestations of magic or of divination must not be seen as distinct subsystems outside a mainstream concept of religion but rather as homogeneously integrated into it. It then becomes quite clear that it is impossible to give an adequate definition of magic based on such a contrast, without imposing criteria based on our heritage and not on the culture under study. Magic, or witchcraft, as a separate entity simply did not exist in Sumerian and Akkadian thought, in spite of the abundance of texts and artifacts related to practices that we commonly associate with the terms. Any definition of magic and divination, and thus this essay itself, therefore rests on an artificial separation of certain texts, activities, and objects from their wider context. In order to make it easier to describe their place in Babylonian religious life in a relatively coherent and organized way, it still can be of advantage to use such a definition. It must, however, not be understood as reflecting the actual categories of experience and faith in ancient Mesopotamia. While we may never be able to re-create, or even basically understand, the ancient concept of magico-

religious thought, any serious attempt to get closer to such an understanding will have to go well beyond the scope of the magical texts and artifacts. Instead, it will have to see them as just one aspect of a multifaceted philosophy of life based not on rational but on mythological experience.

“Magic” in the sense in which I will be using the term comprises that whole area of religious behavior which tries to influence man’s success, well-being, health, and wealth by using methods based neither on rational experience nor solely on private or public worship of a deity. This excludes, for instance, the treatment of stomach trouble by using a traditional herbal potion or the appeal to a god’s mercy and goodwill through a certain prayer during the daily ritual of a temple. It does include, however, the enhancement of the effect of such a potion by means of a spell or the use of a similar prayer in a private ritual to avert the evil effects of the birth of a malformed animal. While we could call the aforementioned approaches “scientific” and “cultic,” it becomes quite clear from this example how artificial such differentiations are. Wherever we choose to draw the lines, a substantial part of the underlying beliefs and of the techniques used will always overlap into adjacent areas, and thus defy strict definition.

If we keep this in mind, it will be much easier to understand why magic in Mesopotamia was not at all restricted to prophylactic, apotropaic, or manipulative actions. To be sure, those aspects also existed. Actually, some of the most elaborate textual sources deal with such matters, and it is with these that we will start our survey.

DEMONS AND GHOSTS

It has been said that the ancient Babylonians lived in a world full of supernatural forces constantly threatening their lives and well-being, and that their philosophy of life was thus determined by the permanent fear of something negative lurking in the dark, unknown and ready at any time to afflict and destroy the individual. In fact, this picture may not be altogether true, since by their nature the textual materials tend to overemphasize the dangers. In other words, nonthreatening situations did not need counter-

action and therefore would generally not appear in the handbooks of the ancient specialists in combating the negative influences of the supernatural. However, it is quite clear from the extensive collections of omens (see below) that many situations in life could be interpreted as foreboding negative events about to befall the individual. The absence of a fixed divine law (such as the biblical Ten Commandments) also made people much more vulnerable to divine punishment for sin and negligence in cases where the perpetrator might not even have been aware that he had disobeyed divine rules. Finally, evil demons and human sorcerers could always strike the individual with premeditated mischief. It has to be emphasized here that these dangers were, within the cultural context, perceived as absolutely real and that any attempt to explain them on the level of psychological aberration is grossly inadequate for the understanding of their religious background. (See “Theologies, Priests, and Worship in Ancient Mesopotamia” earlier in this volume.)

Although we know the names of many Mesopotamian demons, only a few are individually described in our texts. The others remain rather shapeless sources of evil. Those demons taken over into Akkadian beliefs from earlier Sumerian mythology remain especially colorless. For all those *utukkus*, *asakkus*, *rābiṣus*, and such, we have no more than rather general descriptions of their role in all sorts of evil and sickness. The accompanying rituals are also very stereotypical and give few clues to the individual traits of these figures. They mostly show up in groups, often in sevens, and the same general type of incantation can be used to dispel any of them, exemplified by the following:

They are seven, seven are they,
in the depth of the primeval waters they are
seven,
the seven are its adornment.
Neither female are they, nor are they male;
they are the ones who keep flitting around.
They have no spouse, never bore a child,
they do not know the result of their actions,
nor do they pay attention to prayer and offering.
In the street, they stir up a storm,
they keep roaming about in the thoroughfare.
They are seven, of seven seven times seven.
(From a Sumerian spell against the *utukkus*)

But there are also a few highly individual demonic figures. The best-known of these is Lamashtu, a misbegotten daughter of the sky-god, Anu, who, in one of his many moments of undisguised hostility to mankind, let her loose to wreak mischief and illness on earth. She is mainly feared for her fiendish acts against pregnant women, young mothers, and babies, and has therefore—somewhat simplistically—been described as the demon of puerperal fever. The many incantations to ward her off vividly speak of her ugliness and evil deeds:

She comes up from the swamp,
is fierce, terrible, forceful, destructive,
powerful:

[and still,] she is a goddess, is awe-inspiring.
Her feet are those of an eagle, her hands mean
decay.

Her fingernails are long, her armpits unshaven.
She is dishonest, a devil, the daughter of Anu.
In view of her evil deeds, her father Anu and
her mother Antu

sent her down from heaven to earth.

The daughter of Anu counts the pregnant
women daily,

follows on the heels of those about to give
birth.

She counts their months, marks their days on the
wall.

Against those just giving birth she casts a
spell:

“Bring me your sons, let me nurse them.
In the mouth of your daughters I want to
place my breast!”

She loves to drink bubbly(?) human blood,
(eats) flesh not to be eaten, (picks) bones not to
be picked.

(From *Lamashtu* series, tablet I)

Many amulets depicting her have also been found, which were used to deter her by means of her own likeness. The ritual texts accompanying the spells describe several magical techniques, most prominently featuring effigies of her being killed, destroyed, buried, sent downstream, or dispatched to the desert.

Another demon, well known from both incantations and pictorial representations, is Pazuzu, a rather ambiguous figure who was often called upon to counteract Lamashtu, but who on other occasions was also understood as an evil force in his own right. (See fig. 1.) Ardat-Lili, the “Maiden of the Storm,” prototype of the biblical



Fig. 1 Frontal view of a bronze statuette of the demon Pazuzu, Neo-Assyrian period. Provenance unknown. ORIENTAL INSTITUTE, UNIVERSITY OF CHICAGO

Lilith, is a succubus incapable of love and childbearing who has turned all her frustration into malicious vengeance against young adults. (See “Ancient Mesopotamian Religious Iconography,” Part 8, Vol. III, for a view of Pazuzu pursuing Lamashtu.)

Ghosts of the dead could also haunt the living. The cause for their return was almost invariably that they had not been buried properly or had not received their fair share of funerary offerings. Thus, the main purpose of any rituals to stop their vengeful acts was to appease the ghosts and to remedy the negligence that had caused them to keep roaming the earth. Many of the rituals are centered around offerings called *kispu*, the same term that was used for offerings

made in the regular care of the dead. Also, a figurine representing the (unknown) dead person was sometimes buried, and divine help and pity were often requested. Other ghost rituals are very similar to those used against demons, showing that the souls of former human beings were held to be immortal and to possess demonic powers. In the earlier Sumerian incantations, ghosts were likewise mentioned on the same level as all the other demons. (See also "Death and the Afterlife in Ancient Mesopotamian Thought" earlier in this section.)

SORCERER AND SORCERESS

Almost as unpredictable as the activities of demons or ghosts were the machinations of human sorcerers, and many rituals dealing with this problem are known. It has to be stressed, however, that black magic as a category never existed in Mesopotamia; sorcerers used exactly the same techniques and spells for their illegitimate purposes that the victims might use to defend themselves legitimately. The only difference is that evil sorcery was done by secretly invoking the gods or manipulating other supernatural powers, while the defense relied on the openness of its acts. It is not easy to understand how the gods themselves could be fooled by this simple distinction, but they obviously were believed to act on behalf of the illegitimate rites as long as the victim failed to point out to them, in his own nonsecretive ritual, how things really stood. Only after the victim did so could the gods be expected to reverse their allegiance.

The most famous of all antiwitchcraft rituals is contained in a series of tablets called *Maqlû*, or "Burning." In a lengthy nocturnal ceremony an effigy of the witch has to undergo a trial to determine the criminal nature of her acts, after which her likeness is destroyed by fire:

My witch and my sorceress is sitting in the
shadow behind a brick pile.
She is sitting there, practicing witchcraft
against me, fashioning figurines of me.
I am going to dispatch against you thyme(?) and
sesame,
I will scatter your sorceries, will stuff your
words back into your mouth!
May the witchcraft you performed be aimed at
yourself,

may the figurines you made represent yourself,
may the water you drew be that of your own
body!

May your spell not close in on me, may your
words not overcome me.

(*Maqlû*, tablet V)

The text takes great pains to secure the identity of the effigy with the perpetrator, who, as in all surviving witchcraft texts, remains anonymous and, presumably, unknown to the victim. This anonymity, seemingly an important part of the Babylonian belief in witchcraft, is also reflected in the fact that we have no evidence for witches being actually criminally prosecuted, although several "law codes" mention such procedures. The machinations of a person recognized as the witch were probably no longer magically dangerous and were therefore not mentioned or counteracted in extant rituals. In any case, an accusation of sorcery after the fact was extremely hard to prove, could easily lead to the death of the accuser himself, and was thus probably avoided whenever possible: the standard procedure in such a case was not a trial by human judges, but rather an ordeal by immersion into the "Divine River" who could pronounce the accuser guilty by drowning him, or innocent by letting him survive.

SIN AND CURSE

If neither a specific demon nor human sorcery could be held responsible for the deterioration of one's well-being, there could be another equally dangerous reason: the afflicted person could have committed a sin or sacrilege without even knowing it. This would result in a "ban" or "curse" (Akkadian *māmītu*) separating the individual from the favor of the god(s). It has been argued that such beliefs started out on a purely casuistic level, in some ways similar to the concept of "ominous" situations (see below), although in the case of such curses, the sanction arose through one's own fault, not from a predetermined divine sign. If the individual was aware of his "sin," remedy would probably be sought through restitution, rectification of the situation, or a personal prayer to the offended god. But if no specific reason for such divine wrath was apparent, the approach would again

have to be on the level of magic (note that here again the differentiation from religion is artificial). A well-known magical compendium was designed specifically for this kind of situation. Its name, *Šurpu*, also means "Burning," but with a nuance slightly different from *Maqlû*. This collection of spells and rituals explores all conceivable types of misbehavior, such as cultic negligence, domestic troublemaking, lack of care for the poor, violence against animals, and inadvertent contact with unclean people or places. While *Maqlû* has as its central concern the destruction of the figurine of the witch, *Šurpu* is mainly concerned with what we might call the purification of the offender-victim. What was burned here were objects that, by means of contact magic, were transformed into carriers of the sufferer's misdeeds. Besides burning, the rituals also involved the disassembling and discarding of such objects as an onion, a strip of dates, or a flock of wool that the patient had to hold in his hand during the ceremonies. The result was the releasing of the patient from whatever evil effects his former actions had had. One spell follows:

Just as this flock of wool is plucked apart and
thrown into the fire,
(and just as) the Firegod consumes it
altogether,
just as it will not return to its sheep,
will not be used for the clothing of god or
king;

May invocation, oath, retaliation, questioning,
the illness which is due to my suffering, sin,
crime, injustice, and shortcomings,
the sickness that is in my body, flesh, and
veins,

be plucked apart like this flock of wool, and
may the Firegod on this very day consume it
altogether.

May the ban go away, and may I (again) see
light!

(From *Šurpu*, tablet V/VI)

OMENS AND RITUALS OF UNDOING

A last major group of prophylactic or apotropaic magic is concerned with averting the ill effects of a predetermined situation, as revealed to a person by means of an "omen." We have to

pause here for a moment, to have a brief look at the two types of divine revelation that we subsume under this general term. An omen is a divine sign given to a person as a warning about a specific danger foreshadowed by an observable fact or as an alert of a propitious development in the future. Omens were the most important way Mesopotamian gods showed their will, intentions, or fateful decisions to people. Only rarely do we encounter other means of such communication, such as oracles, prophecy, necromancy, or incubation (the practice of spending the night in a sanctuary in order to receive a revelation through a dream).

Omens came in two forms, solicited and unsolicited. In a solicited omen a professional specialist examined a situation that he deliberately had brought about; an example of this is extispicy, in which the entrails of an animal slaughtered specifically for this purpose are inspected. By soliciting an omen, one could ask the gods for advice in a specific situation. If the answer was negative and foreshadowed disaster, the result would simply be that the planned action, such as a wedding, a battle, or a groundbreaking for a new temple, would not be carried out at that time.

By contrast, an unsolicited omen, such as a solar eclipse, the birth of a baby with two heads, or the appearance of a wild animal in the city, could be observed by anyone who had his eyes open. Such an omen was not restricted in its effects to a particular action, situation, or person. The ominous meaning could affect anybody, even a casual observer. If the sign was foretelling evil, it would have been of no use to sit back and wait for a better omen, as was possible with the solicited kind of message. Yet, since the sign only predicted but did not itself constitute the evil, the observer still had an opportunity to ward off the dreaded effect. If the sign was of a kind that pertained to public life (the king, the state, or the city), special ceremonies would be performed in the palace or temple.

Omens predicting disaster for an individual, on the other hand, called for the speedy performance of a specific apotropaic rite to prevent the threat from becoming reality. Rituals of this kind were as diverse as the divine signs prompting their use. They normally were handed down on individual tablets, each designed for a specific situation. Sometimes the ritual instructions were

even included directly in the omen series (see below) at the appropriate places, enabling the omen specialist immediately to come up with the necessary countermeasure. These rituals, though never conceived as a standardized series, were commonly called “Undoing (*Namburbû*) of Such-and-Such an Evil.” They typically consisted of an incantation accompanied by actions to transfer the portended evil to a disposable object. Offerings and purification rites were included to secure benevolence of, and protection by, the god thought to have sent the ominous warning. It is interesting to note that in this genre certain traits of a cultic approach become visible: the giver of the sign was a god sending a message to a person, and the ritual, in spite of its apotropaic purpose, was thus directed not only against the evil but also toward the god:

Shamash, king of heaven and earth, judge of
things above and below,
light of the gods, leader of mankind,
who acts as judge among the great gods!
I turn to you, seek you out:
among the gods, grant me life;
may the gods who are with you grant me well-
being.
Because of this dog who urinated on me, I am in
fear, worried, terrified.
If only you make the evil (portended by) this
dog pass by me,
I will readily sing your praise!
(*Namburbû* prayer from the Neo-Assyrian period)

Therefore, we often encounter here (next to, and occasionally replacing, purely magical spells) incantation-prayers similar to a well-known genre called *Šu-ila*, which means “Lifting of the Hand.” This genre otherwise comprised the standard prayers used in the official cult, as well as in private piety. Again, the best way to explain this ambiguity in terms, format, and usage is by accepting that there was no separation between the different aspects of religious behavior involved, and that modern scholars who wonder about such a use of prayers in a magical setting simply fail to understand the underlying unity of magico-religious thought.

Other *Namburbû* rituals, also including this kind of prayer, were used in contexts not related to ominous portents, to ask a divine power for general assistance and protection in problem situations. These *Namburbû* prayers were some-

times called “Undoing of Any Conceivable Evil.” Prophylactic and manipulative purposes seem intertwined here, but this again is a differentiation not perceived as such by the ancient Mesopotamians: their terminology completely ignores the distinctions reflected in our definitions. The most prominent feature present in all *Namburbû* texts is the high level of direct divine involvement in the underlying problem, and this is then reflected in the ritual. The incantation is thus directly addressed to the respective god or goddess and comes close to our definition of a prayer.

POTENCY RITUALS AS MANIPULATIVE MAGIC?

Many more situations in the daily life of a Babylonian called for, or at least could benefit from, the use of magico-religious techniques. Perhaps the clearest example for manipulative use of magic are the *Šaziga*, or “Potency,” rituals. This group of spells and instructions was used to induce, or rekindle, love in an unresponsive individual, and specifically to enable the male partner to sustain an erection. Although the extant texts are silent on this point, it seems quite likely that the short-term results achieved were not always in the long-term interest of the person magically induced to such involuntary love or lovemaking. Thus, *Šaziga* would be the only genre of Mesopotamian rituals that, without being stigmatized as illicit witchcraft, at least silently accepted a negative result for the person at whom it was aimed. However, we know nothing at all about the context or occasion for these spells, and it is easily conceivable that any use of them outside a socially accepted partnership was in itself deemed illegitimate. Such an interpretation would fit particularly well with the literal meaning of *Šaziga*, which refers to the erection or restoration of physical potency in the male. The aspect of seduction, clearly present in the wording of some of the incantations, might also have been a very necessary ingredient of Babylonian family life: marriages were generally not based on love, but rather were prearranged by the families. Thus, a little magic might have helped to make life together more

agreeable by at least secondarily inducing sexual desire where it was not necessarily present in the first place. Thus, *Šaziga* might not have been seen as illicit trespassing on another individual's rights, but might even have served a fully legitimate social purpose. The ritual activities prescribed in the *Šaziga* texts are mostly "inductive," certain objects being magically "enriched" with love power derived from, among other things, the sexual organs of certain animals. These carriers were then brought into contact with the desired partner. The wording of the spells, often also alluding to the strong sexual force of animals and using vivid descriptions of sexual techniques, desires, and fantasies, was clearly aimed at preintercourse stimulation and arousal, as in this:

Let the wind blow, let the palm grove sway,
let the clouds mass together, and a rainstorm
pour down!
Let my potency flow like river water!
Let my penis be (as taut as) a harp string,
so that it will not slip out of her!
(*Šaziga* incantation, Neo-Assyrian period)

OTHER INCANTATIONS AND RITUALS FOR PRIVATE USE

We do not have the space to examine in similar detail all other genres and uses of magico-religious rituals that were available to the ancient Babylonians. A few brief examples must therefore be enough. There were, for instance, specific incantation-prayers for "reconciling a man's god or goddess with him," used in case of general, nonspecific trouble traced back to the temporary estrangement between deity and human being. A roughly comparable thrust is discernible in the texts "for a woman whose husband has turned away from her." These, by the way, are very different from the *Šazigas*, completely refraining from manipulative techniques and achieving their goals through the intercession of the goddess of love, Ishtar, on behalf of the neglected wife. If this is more than mere coincidence, it might open some interesting aspects of male- and female-role perception in Mesopotamian society.

Other spells were known to dispel the dangers

of fire, to ease childbirth, to prevent the development of a sty in the eye, to quiet a baby whose crying was disturbing the household, or to keep wild dogs from biting, as in this:

He is long of leg, a fast runner.

He does not need much sustenance, is a poor eater.

(But) to his teeth clings his semen:

Wherever he bites, he engenders a son of his.

(Old Babylonian spell against a rabid[?] dog)

A number of these are neither apotropaic nor manipulative in a narrow sense and can be traced back to forms of folk poetry. The baby incantations, for instance, reflect the motifs and style of earlier lullabies. The fact that such "secular" little poems could be integrated into the corpus of magical texts, could be secondarily provided with ritual instructions, and then became a fixed part of the tradition of exorcism sheds an interesting light on the complex system of magico-religious thought. Examples like these show that magical protection or support was not restricted to exorcism in the Western sense of the term or to the defense against evil powers: magic was equally appropriate in most cases where, from our point of view, a religious prayer or even a completely secular nursery rhyme would be the remedy of choice.

MAGIC AND MEDICINE

Short spells, often in garbled and no longer understandable foreign languages (Hurrian and Elamite elements have occasionally been identified), are hallmarks of many magico-medical rituals and prescriptions. This aspect of magic and the pertinent texts are discussed in more detail elsewhere in this book, so a few general remarks seem sufficient here. Just as there were no lines separating "magic" from "cult" and "religion," there was no clear distinction between healing practices based on "rational science" and those based on magico-religious techniques. It is true that two specialized professions shared the task of providing health care to the population, the "magical expert" (*āšipu*) and the "physician" (*asû*). Neither of them, however, was restricted in his activities to what we perceive as his "major

field of specialization," and any *asû* would readily use a spell to enhance the effects of an enema. Similarly, the *āšipu* could incorporate the application of a herbal salve in a ritual of magical fumigation. It is also interesting to see that the libraries of magical experts, of which we know several, always include medical handbooks and works on pharmacopoeia, in which prescriptions and recipes were arranged by empirical, scientific criteria, such as symptoms, anatomy, or botanical classification. (See "Medicine, Surgery, and Public Health in Ancient Mesopotamia" below.)

EXPERT AND LAYMAN

All the rituals and incantations discussed so far could be used for the benefit of any individual. We have to keep in mind, however, that in a largely illiterate society all written material tends to be concerned only with the needs of the uppermost social stratum. In Babylonia, many of the extant magical texts were probably restricted in their practical use to the royal household and its immediate dependents. In spite of this, we may confidently assume that some similar rituals, though possibly less learned, less elaborate, and less expensive, were also performed for, and maybe even by, the average illiterate citizen. Such an assumption is especially plausible in those genres where we can detect traces of oral folklore in the written versions preserved in the libraries of the learned. Nevertheless, with the exception of very simple procedures and spells, we have to assume that any magical rite needed staging and recitation by a professional expert, the aforementioned *āšipu*. He is the person regularly referred to in the second person in ritual texts ("You do such-and-such, say so-and-so"). There has yet to be found a single contract or receipt of payment for the free-lance services of such specialists, who often had priestly functions in a temple or were in the service of the king. Circumstantial evidence suggests that they also visited private houses for healing the sick, counteracting dangerous omens, or helping in difficult situations. The widespread use of amulets, which have been found in virtually every conceivable location from royal palaces to low-income neighborhoods in the city, also attests

to the fact that magico-religious thinking was not restricted to any particular social level. Everybody shared in it in his or her own way, which probably varied mainly according to economic status, but probably not so much with level of education or social standing.

OFFICIAL RITUALS

Besides the private rituals and incantations described so far, we also know of many "official" ones. They often share the same methods with the former, but are markedly different in their purpose and setting. For example, while the cure of a sick daughter of the king is basically a private matter, even if it takes place in the context of the palace, a celestial omen foreboding danger for the king as the representative of the state calls for a different level of action. Similarly, the apotropaic protection of a bedroom in which a woman is about to give birth may be superficially similar to, but is essentially different from, the magical provisions needed to invest a newly built temple with the ritual purity necessary to make it a place fit for the dwelling and worship of the gods. A more detailed analysis of such official rites would furthermore have to try to distinguish between the spheres of temple and state—a task that is complicated by historical factors. For instance, the Assyrian kings, direct representatives of Assur, the state god, in their very person linked both spheres, but still relied heavily on rituals originating in Babylonia, where temple and state were much less closely intertwined. This feature has not yet been investigated in sufficient depth and can therefore not be dealt with in this overview.

One of the most elaborate royal rituals is known as *Bīt rimki*, or "House of Ablution." It is an Assyrian adaptation of earlier Babylonian material and contains elaborate purification rites for the king, to be performed outside the city in a setting of reed huts over several days. It involves the recitation of numerous prayers and incantations, some of which were taken directly from such "private" compendia as *Maqlû* and *Šurpu*.

The king enters the fifth hut, while the exorcist recites the prayer formula "Great Lord, Who in the Pure Heavens." The king says the incantation

"Shamash, Judge of Heaven and Earth." You set up a figurine of the "Curse Demon," pierce its heart with a dagger made of tamarisk wood. He (the king) rinses his mouth with water and beer, spits it over (the figurine). Then you bury it at the base of the wall.

(*Bīt rimki* series, ritual tablet)

Similar purification rites were contained in other tablet series, such as *Bīt salā' mē*, "House of Water Sprinkling," or *Bīt mēseri*, "House of Detention." All these rites were concerned with cultic impurity caused by contact with impure substances or people, by transgressing taboos, or by situations beyond human control, such as earthquakes, eclipses, or other signs of divine wrath. Not unexpectedly, most of these rituals, in some way or other, make use of water, oil, and several cleansing substances like potash, once more showing rational techniques used in a magical context.

Of great religious importance were rituals for the building of temples, accompanying the construction through all its major stages, from the selection of the site to the final consecration. Equally important were the rites to purify and introduce into the temple the divine images of worship. These rituals, known as the "Opening/Washing of the Mouth" (*pīt/mīs pī*), were repeated whenever the cult statue had come into contact with the impure, for instance, through repair work or after illegitimate intrusions by noncultic personnel.

Magical protection for secular structures, both palaces and private residences, was mostly achieved through representations of protective spirits near windows, drainpipes, and doorways—in other words, wherever the demons were likely to seek entrance. No specific rituals connected with such reliefs or statuary in palaces are known to date, but lengthy texts describe the manufacture and use of prophylactic figurines for similar purposes. Many private rituals making use of magical images supplement our knowledge about these matters. Furthermore, a good number of such artifacts, some with appropriate apotropaic inscriptions, were found in private and official buildings throughout Mesopotamia.

Other official rituals were concerned with military matters, magical protection of the army before battle, purification of weapons, and so forth. Still others aimed at averting omen-related dan-

gers from the king, state, or army. Probably the best-known of these texts concern the investiture of a substitute king during a crisis that threatened the life of the real monarch. (See "Esarhaddon, King of Assyria" in Part 5, Vol. II.) Because of some similarities with the biblical concept of the "scapegoat," these texts, although only preserved in fragments, have stirred much interest. The main thrust of the ritual is to transfer the risk to the substitute, accompanied by additional prophylactic manipulations for the real king. After the period of danger—usually caused by the occurrence of an eclipse—was over, the substitute was killed to fulfill the omen, and after still another set of purifications, the legitimate ruler was reinstalled. Such drastic measures, involving the death of an innocent victim, were of course only used as a last resort in cases of extreme danger to the stability of the state. No direct parallels from private rituals exist, but somewhat similar rites can be found in the manipulation of figurines that would, by means of contact magic, take on the illness and death threatening an individual.

THE MAGICAL EXPERT

As far as we know, all nonprivate acts of magic were to be performed by the official magician, the *āšipu*, who on occasion cooperated with other cultic personnel, such as the chanters (*kalû*) or the singers (*nāru*). A few texts from a Middle Assyrian palace archive record the delivery of animals and other materials needed in the rituals to several *āšipus*, clearly for use in official rituals. Besides often being mentioned in the ritual texts, the magical experts also figure prominently as scholarly advisers to Neo-Assyrian kings, and much important information regarding their activities can be culled from the court correspondence. It is not absolutely clear whether the exorcists figuring in these royal archives are in fact the same people as the magicians employed in the service of certain gods and temples or those who presumably provided magical services to private citizens. What we do know is that the profession of *āšipu* was normally handed down from generation to generation within the same families. The royal archives also enable us to follow the personal careers of some

prominent magicians, whom we can trace for up to forty years. Most of these careers seem to be quite linear, the young scholar starting with the title of “scribe” or “apprentice magician,” moving on to become an *āšipu*, and eventually being further promoted to “chief exorcist”; but on occasion we can also witness the demotion or dismissal of an individual without, however, learning about the reasons. Such ups and downs may only have to do with their position as court scholars and would not necessarily affect their abilities, and right, to pursue their profession in a different setting. Unfortunately, even less is known about those magical experts who were not affiliated with the palace. Our best sources are tablet colophons or *ex libris*. From these labels, we can often see the interests and learning of an individual *āšipu* who owned a library. Family connections and temple affiliations are also sometimes mentioned, but no insights into a magician’s daily professional life are offered. A catalogue of texts making up the core of the magical tradition has been preserved, and it helps us to evaluate the scope of tasks expected from the exorcist. Finally, we gain an interesting glimpse of the organization and work conditions of the temple magicians from a few Late Babylonian documents from Uruk (biblical Erech, modern Warka). We learn from these that the standard number of *āšipus* in the Anu temple was seven—certainly no coincidence since seven was already then the magical number *par excellence*. Similarly, prebends from the *āšipu* office were always sold in fractions of one-seventh of a share. Here again, it is noteworthy that all known exorcists, or even shareholders of the prebends, belonged to one of only three clans in which this profession was passed down from generation to generation.

DIVINERS AND SOLICITED OMENS

In contrast to exorcists, diviners did not belong to the priesthood of a certain temple. Most of those known to us by name worked directly for the crown, either as palace scholars or attached to local governments or the army. This picture is quite consistent from Old Babylonian times

through the late periods of Mesopotamian history. “Diviners” in the strict sense (Akkadian *bārû*, which literally means “examiner”) were those specialists who solicited omens from the gods and interpreted the signs thus found. By far the most common technique for this was extispicy, in which omens were derived from the appearance of the intestines of sheep that had been slaughtered specifically for this purpose. The sheep had to be carefully selected and often magically purified, and then the diviner asked the gods to “write” their messages on the *exta* (entrails), specifically the liver, to be seen and “read” after dissection of the carcass. No mention of other personnel is made, so we have to assume that the diviners had all the manual skills needed, and were also qualified to perform the appropriate rites themselves. For the interpretation of the signs, the diviners occasionally used liver models to locate or document unusual features. (See fig. 2.) Besides these, they had voluminous handbooks that listed every imaginable deformation, mark, or discoloration, often further specified by location, along with its significance.

To be sure, there were also some general principles involved that made the interpretation a bit easier. For instance, signs on one side of the liver were supposed to refer to the person on whose behalf the extispicy was performed, while the other side gave readings for his adversary or, in a military context, the enemy. Thus, a positive sign on one side basically equaled a negative one on the other, or the two sides could neutralize each other. Another general idea was that a sign on the left side was negative, while one on the right was positive. Many more, and much more sophisticated, methods to interpret a divine message correctly were developed early and then compiled into the “scientific” manuals that tried, on a very systematic and often quite abstract level, to provide the answer to any conceivable reading of the liver.

Since extispicy involved at least the cost of one animal per query, private citizens are likely to have resorted to this technique only under extraordinary circumstances. Cheaper if less exact methods for soliciting a divine message were lecanomancy (observing the pattern of oil poured onto water, or vice versa) and libanomancy (observing smoke generated by a censer).



Fig. 2 Obverse and reverse of a clay model of a sheep's liver with annotations describing and locating features of importance for the diviner, Old Babylonian period. Provenance unknown. BRITISH MUSEUM, LONDON

These techniques also belonged to the domain of the *bārû*. A repetition of the procedure was often needed to ascertain or refine the results, clarify ambiguous readings, or—in the case of a negative first reading—to obtain a favorable reading at a later date. No immediate threat was involved in a negative sign, as long as the situation for which the divine message was sought was properly postponed or even canceled in time. Thus, no follow-up rituals to guard against the dreaded result were necessary.

The types of divination described so far sought answers on a binary level. The client, king or citizen, through the medium of the diviner, asked for a yes or no from the gods for a specific problem or situation, as in this example:

I ask you, Shamash, great lord: should Assurbanipal, son of Esarhaddon, king of Assyria, send Nabû-sharra-uşur, the *rab-mûqi* officer, to Egypt? And will he carry out whatever orders Assurbanipal is going to give him?

Stand by me, by placing in this ram a firm positive answer, favorable designs, favorable, propitious omens, in accordance with your great divinity, and may I see them.

May [the query] go to your great divinity, O Shamash, great lord, and may it be answered by an oracular message.

(Omen query on behalf of King Esarhaddon)

If divergent or ambiguous signs were obtained during the process, the respective signs were counted, and a mathematical majority of positive or negative aspects made up the final verdict. Equal numbers resulted in the repetition of the process, which could be repeated at any time to obtain a more favorable final answer.

UNSOLICITED OMENS

Somewhat more complicated is the situation with omens not solicited by the diviner for a specific situation. In this case, any abnormal finding or observation could be seen as carrying a message that would affect the fate of the observer in an often very specific way. The circumstances of the observation would largely determine the scope of the effect: signs seen in an individual's house would primarily pertain to this particular person; things that occurred in

the community (for instance, a wolf seen in town or an untimely regional thunderstorm) might affect a city or district; events in the capital might have repercussions for the state administration; and terrestrial or celestial omens, such as earthquakes or eclipses, would typically affect the whole country and its representatives, the king, the court, and their politics or warfare.

Since the observed sign was not identical with the evil portended, but rather constituted a divine warning about impending danger, it was most important to get the correct interpretation in time to undertake any prophylactic measures needed to avert the predicted results. An average citizen or peasant would, after seeing such a sign, probably contact the nearest literate person, a priest, a scribe, a *bārû*, an *āšipu*, or even the local authorities. If these people did not have immediate access to the pertinent handbooks, they could at least make further contacts with a better-informed specialist or a higher authority, as in the following case:

To my lord, from your servant Sumkhurabi: In Great Zarrum, amongst the flocks of sheikh Zazum, a malformed lamb was born, but while I was staying with my lord in Mari, nobody informed me. As soon as I arrived in my district, they brought it to me, telling me the following: "It had one head, (and) its face looked like a ram's face; it (also) had just one breast, heart and (set of) entrails. From its umbilical cord (down) to its loin there were two bodies, but during birth one of its shoulders was ripped off, and (later on?) somebody crushed its head." Now I had it sent immediately to my lord. My lord should inspect it!

(Letter from a governor to the King of Mari, Old Babylonian Period)

There does not seem to have been a special profession dealing with such unsolicited omens, and we see members of all the mentioned groups on occasion involved in interpreting signs and counteracting their ill effects. Even in the royal correspondence, such topics are dealt with by no particular type of scholar, although it seems safe to assume that matters eventually ended up on the desk of the magical experts, who then had to arrange for the necessary apotropaic rituals. Things were a bit different whenever celestial phenomena were concerned. Here, a highly specialized group of royal astronomers and astrol-ogers (no clear distinction between the two

professions existed) was in charge, professionally involved in the observation, prediction, and interpretation of all such omens.

OMEN COLLECTIONS

The handbooks used for the correct interpretation of the divine signs were organized by topic, and all followed basically the same format of listing omens with their protasis (or conditional clause: "If such-and-such is seen/happens"), followed by an apodosis that, in more or less detail, described the portended event in a declarative clause. Some of these omens were traced back to historical events of the past, reporting purportedly real occurrences when the phenomenon was observed for the first time. Thousands of different signs were collected, and the resulting texts were then often expanded into purely theoretical "science," by adding scores of conceivable (but neither recorded nor, by standards of modern science, expectable) further possibilities. One of the best-known such tablet series is concerned with births of malformed humans and animals. Its name, *Šumma izbu*, or "If a Malformed Newborn Creature," is derived from its opening line. Another long series, comprising at least 107 tablets, was called *Šumma ālu*, "If a City." It contained what is often summarized, but also a bit misleadingly, called "terrestrial omens." The variety of topics dealt with here is much greater than expected from such a title. There are, for instance, several tablets dealing with the circumstances of everyday life, such as building a house, performing agricultural activities, or washing oneself, as in this:

If a man washes himself with water in the
corridor of the house: he will become old.

If he washes himself early in the evening: he
will not become rich.

If he washes himself in the stairwell and lets the
dirty water run out into the open:
he will die within a year.

If he washes his toes: he will dwindle away.

If the washing water looks like beer: he will be
well.

If it looks like asphalt: he will not be well.

If it smells of ghee: he will lose influence.

If he dawdles (while washing): there will be
constant rain.

If he does not dawdle: he will fall into
poverty.

(From *Šumma ālu*, "chapter" 43)

A large part of this series is taken up by omens derived from the observation of virtually all kinds of living creatures; other signs are culled from the sexual behavior of human beings and animals, from the occurrence of fires, or from encounters between humans and wild beasts. The series clearly is a late compendium, bringing together selections and expansions of many smaller topical compendia, only a few of which have survived independently. An example of such a shorter series is the collection of dream omens ^d*Ziqīqu* (^d*Zaqīqu*), or "God of Dreams," which treats unsolicited signs revealed in dreams and should not be confused with another divinatory technique rarely used in Mesopotamia, incubation, in which messages in the form of complete, interpretable dreams were solicited.

ASTROLOGY

Historically speaking, perhaps the most influential area of Mesopotamian divination was astrology. Here, more than in any other field, the Babylonian belief in divine signs was intertwined with truly scientific observation, mathematical calculation, and eventually correct prediction of the movements of the heavenly bodies. Later Western astronomy is based heavily on these efforts and their results. It cannot be stressed enough that there was no clear distinction between the two aspects of celestial observation, "astronomers" and "astrologers" being very often the same persons, or at least working together very closely. As mentioned before, celestial signs were seen as pertaining directly to the king or state, and thus, the divinatory science of astrology was largely restricted to specialized scholars connected with the palace or the main temples of the land. With the exception of horoscopes, which were developed only late under Hellenistic influence, the accumulation and collection of astrological omens gained in importance after the Old Babylonian Period and peaked in the first half of the first millennium BCE. The main compendium of

these forecasts was called, again after the first line of the first tablet, *Enūma Anu Enlil*, or “When (the gods) Anu and Enlil.” It deals with observations of the moon, the sun, the planets, and the fixed stars, but also includes other matters, such as large-scale terrestrial events like earthquakes and overall weather patterns. An example follows:

- If the (constellation) “Worm” is prominent(ly visible): mercy and peace will be in the land.
 - If the “Hireling” (Aries) is faint: the king of Subartu will encounter misery.
 - If the stars of the “True Shepherd of Anu” (Orion) scintillate: somebody influential will get too much power and will commit evil deeds.
 - If the luster of the “Crook” (Auriga) keeps turning black: the dynasty will disappear, and another one will rise to power.
 - If the front star of (the constellation) Anzû is very red: if in winter, there will be frost; if in summer, heat.
- (From a tablet of omens about fixed stars)

The grouping together of different kinds of signs reflects the fact that the arrangement of the omens was primarily not by medium but by the intended recipient of the divine message and that the observed phenomena were not restricted to a narrow location, thus underlining their importance for the whole community. Several rituals used to avoid the predicted ill effects of such public omens are known. Because of their great importance, most of them are rather elaborate, sometimes stretching over several days and often involving additional cultic personnel besides the main officiant, the *āšipu*. (See “Astronomy and Calendars in Ancient Mesopotamia” later in this volume.)

OMENS, MAGIC, AND MEDICINE: IN LIEU OF A CONCLUSION

Let me round out this brief overview with a glimpse of still another area where divination, magic, and science were joined together in a way that shows how inadequate must be any modern effort to separate these ancient methods of dealing with the supernatural or unknown.

There is a lengthy text series that enumerates all sorts of medical symptoms and, in perfect parallelism to the omen series, lists them systematically from head to toe. The format used also follows the example of the omens, with the lines divided into protasis (condition) and apodosis (consequence). This apodosis contains no medical prescriptions or instructions but only lists, in a scientific, matter-of-fact style, the name or cause of the illness and the prospect for the patient:

- If he is stricken (by pain) at the right side of his head: hand of Shamash—he will die.
- If he is stricken at his head, and the veins of his forehead, hands, and feet rise all at once, (and) he is red and hot: hand of a god—he will get well.
- If he is stricken at his head, and he is afflicted by one attack after the other, and his face is (alternately) red and greenish; whenever he has an attack, his mind becomes deranged, and he has convulsions: grip of Lamashtu—his days may (still) be long, but (eventually) he will die (from it).

(From *Enūma ana bīt marši āšipu illaku*, tablet 3)

This series of what have been called “diagnostic omens” is expressly meant for the use of the magical expert, the *āšipu*, as is made clear in the very first line of the compendium, which served as its title in antiquity: *Enūma ana bīt marši āšipu illaku*, or “When the exorcist goes to the house of a sick person.” We simply could not wish for a better example of the intimate and ultimately inseparable connections between the magico-scientific, magico-religious, and magico-divinatory spheres in ancient Mesopotamia.

BIBLIOGRAPHY

Most titles given here contain footnotes with further bibliographic information. Scholarly text editions are cited only if the introductory chapters are helpful for the general reader.

TZVI ABUSCH, “Maqlû,” in *Reallexikon der Assyriologie*, vol. 7 (1987–1990), in English; ROBERT D. BIGGS, “Lebermodelle. A. Philologisch,” in *Reallexikon der Assyriologie*, vol. 6 (1980–1983), in English, *Šà.zi.ga*:

Ancient Mesopotamian Potency Incantations, Texts from Cuneiform Sources 2 (1967), Introduction, and cf. also the brief summary by the same author, "Liebeszauber," in *Reallexikon der Assyriologie*, vol. 7 (1987–1990), in English; JEREMY BLACK and ANTHONY GREEN, *Gods, Demons, and Symbols of Ancient Mesopotamia: An Illustrated Dictionary* (1992); JEAN BOTTÉRO, "Magie. A. In Mesopotamien," in *Reallexikon der Assyriologie*, vol. 7 (1987–1990), in French, "The Problem of Evil in Mesopotamian Mythology and Theology," in *Mythologies*, vol. 1, pt. 2, compiled by YVES BONNEFOY, English trans. edited by W. DONIGER (1991), and "Symptômes, signes, écritures en Mésopotamie ancienne," in *Divination et Rationalité* (1974), in French; RICHARD CAPLICE, *The Akkadian Namburbi Texts: An Introduction*, Sources from the Ancient Near East 1, pt. 1 (1974); CHRISTOPH DAXELMÜLLER and MARIE-LOUISE THOMSEN, "Bildzauber im alten Mesopotamien," *Anthropos* 77 (1982), in German with English summary; *La Divination en Mésopotamie Ancienne*, XIV^e Rencontre Assyriologique Internationale, Strasbourg, 2–6 July 1965 (1966), variously in English, French, and German; J. J. A. VAN DIJK, A. GOETZE, and M. I. HUSSEY, *Early Mesopotamian Incantations and Rituals*, Yale Oriental Series, Babylonian Texts 11 (1985), Introduction, with an important bibliography about Sumerian and early Akkadian magical texts; JEAN-MARIE DURAND, "Les Devins" and "Les événements fortuits, indices de la volonté divine," in *Archives Épistolaires de Mari* I/1 (1988).

WALTER FARBER, "Lamaštu," in *Reallexikon der Assyriologie*, vol. 6 (1980–1983), in German, and "Magic at the Cradle: Babylonian and Assyrian Lullabies," *Anthropos* 85 (1990); WALTER FARBER, HANS MARTIN KÜMMEL, and WILLEM H. PH. RÖMER, *Rituale und Beschwörungen I*, Texte aus der Umwelt des Alten Testaments 2, pt. 2 (1987), an anthology of magical texts from the third, second, and first millennia in German translation, with bibliographical notes; ANTHONY GREEN, "Beneficent Spirits and Malevolent Demons: The Iconography of Good and Evil in Ancient Assyria and Babylonia," *Visible Religion* 3

(1984); OLIVER R. GURNEY, "The Babylonians and Hittites," in *Oracles and Divination*, edited by M. LOEWE and C. BLACKER (1981); VOLKERT HAAS, *Magie und Mythen in Babylonien* (1986), a monographic treatment of Babylonian magic, written in German, for the general reader; ULLA JEYES, *Old Babylonian Extispicy: Omen Texts in the British Museum* (1989), Introduction, esp. pp. 15–46; JØRGEN LAESSØE, *Studies on the Assyrian Ritual and Series "Bît rimki"* (1955); MARCEL LEIBOVICI, "Génies et Démons en Babylonie," in *Génies, Anges, et Démons*, Sources Orientales VIII (1971), in French; ERLE LEICHTY, *The Omen Series "Šumma izbu"*, Texts from Cuneiform Sources 4 (1970), Introduction, esp. pp. 2–26.

PIOTR MICHALOWSKI, "Carminative Magic: Towards an Understanding of Sumerian Poetics," *Zeitschrift für Assyriologie* 71 (1981); A. LEO OPPENHEIM, "Divination and Celestial Observation in the Latest Assyrian Empire," *Centaurus* 14 (1969); "The Interpretation of Dreams in the Ancient Near East," *Transactions of the American Philosophical Society*, n.s. 46, pt. 3 (1956); SIMO PARPOLA, "The Substitute-King Ritual," in *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal*, *Alter Orient und Altes Testament* 5, no. 2 (1983); ERICA REINER, "Magic Figurines, Amulets, and Talismans," in *Monsters and Demons in the Ancient and Medieval Worlds*, edited by A. FARKAS et al. (1987), "La Magie babylonienne," in *Le Monde du sorcier*, Sources Orientales 7 (1966), a concise overview, in French, and "The Uses of Astrology," *Journal of the American Oriental Society* 105 (1985); FRANCESCA ROCHBERG-HALTON, *Aspects of Babylonian Celestial Divination: The Lunar Eclipse Tablets of Enūma Anu Enlil*, *Archiv für Orientforschung*, Beiheft 22 (1988), Introduction, esp. pp. 2–17; IVAN STARR, *The Rituals of the Diviner*, *Bibliotheca Mesopotamica* 12 (1983), and (as editor) *Queries to the Sungod: Divination and Politics in Sargonid Assyria*, *State Archives of Assyria* 4 (1990), Introduction, esp. pp. xiii–lv; MARIE-LOUISE THOMSEN, *Zauberdiagnose und schwarze Magie in Mesopotamien*, CNI Publications 2 (1987), in German.

SEE ALSO *Death and the Afterlife in Ancient Mesopotamian Thought* (Part 8, Vol. III); *Witchcraft, Magic, and Divination in Ancient Egypt* (Part 8, Vol. III); *Astronomy and Calendars in Ancient Mesopotamia* (Part 8, Vol. III); *Hittite Witchcraft, Magic, and Divination* (Part 8, Vol. III); and *Witchcraft, Magic, and Divination in Canaan and Ancient Israel* (Part 8, Vol. III).

Medicine, Surgery, and Public Health in Ancient Mesopotamia

ROBERT D. BIGGS

MEDICINE IN ANCIENT Mesopotamia grew out of a folk tradition of what is usually called herbal medicine. In such traditions, plants and plant products, minerals, and animals and their products furnish the basic ingredients of the medications. Such medications (to be described in more detail below) are usually to be ingested, applied to the body surface, or inserted into the body.

It has sometimes been claimed that the earliest medicine in Mesopotamia was a "rational" or "scientific" medicine which was only later "contaminated" by magical practices. Recently published letters from Mari (modern Tell Hariri), however, clearly show the physician, *asû(m)*, and magician, (*w*)*āšipu(m)* or *mašmaš-šu(m)*, working side by side on the same cases. There is no hint in the ancient texts that one approach was more legitimate than the other. In fact, the two types of healers seem to have had equal legitimacy, to judge from such phrases as "if neither medicine nor magic brings about a cure," which occur a number of times in the medical texts. The two types of therapy seem to have been used by both categories of practitioners, at least on some occasions. It should be borne in mind that while the *asû*'s profession was to treat illnesses, treatment of illness was only one of the many functions of the *āšipu*.

Nevertheless, it is useful to present separately the material we have on each.

SOURCES OF EVIDENCE

We have no treatises on medicine as such from ancient Mesopotamia to make explicit their understanding of sickness, health, and the treatment of illnesses. What information we have comes from the so-called medical texts, from letters, and from literary sources. The major source is obviously the "medical" texts themselves. The earliest medical prescriptions we have date from the Third Dynasty of Ur (about 2000 BCE) and are written in Sumerian. The largest proportion of the medical texts, however, are Neo-Assyrian in date, coming mainly from Assurbanipal's library in Nineveh and from the Assyrian site of Asshur (modern Qalat Sharqat). Smaller numbers come from other sites such as Nippur (Nuffar), Sippar (Abu Habba), Nimrud (Kalkhu), and Sultantepe. Relatively few medical texts are known from Mesopotamia itself from the second millennium, but they obviously once existed, as is evidenced by the numerous Babylonian medical texts from the Hittite capital

of Khattusha near the modern village of Boğazköy in central Turkey. In a number of cases, there are word-for-word parallels in later texts, suggesting the corpus of texts as we have it from Neo-Assyrian times may well reflect the medical practices of nearly a millennium earlier. Thus these texts can hardly provide evidence for any innovations that may have occurred in the treatment of illnesses or any specific changes in attitudes or beliefs that might have affected the treatment of illness. It has been argued by A. Leo Oppenheim that the very fact that there was a written tradition had a stultifying effect and made medical practice hidebound. It seems likely, however, that there were changes in attitudes, evolution of skills, and innovations of various kinds, some perhaps the result of differing traditions among various ethnic groups, which our texts do not reflect. Our descriptions are thus not necessarily applicable to the whole time span or area of ancient Mesopotamia.

An ideal in Babylonia was to enjoy good health and to have contentment, to be viewed favorably by the gods and fellow humans, and to enjoy a long life with one's descendants. A full life included having children who would provide funerary offerings after one's death. A statement attributed to Adad-guppi, the mother of the Babylonian king Nabonidus, telling of her long and contented life (which she attributed in part to her piety and zealous worship of the moon-god) illustrates the point:

He (the moon-god) added many days and years of happiness (to my life) and kept me alive . . . one hundred and four happy years. . . . My eyesight was good (to the end), my hearing excellent, my hands and feet were sound, my words well chosen, food and drink agreed with me, my health was fine and my mind happy. I saw my great-great grandchildren, up to the fourth generation, in good health and (thus) had my fill of old age. (Translation by Oppenheim in James B. Pritchard, *Ancient Near Eastern Texts Relating to the Old Testament*, 3rd ed. 1969, p. 561)

This quotation gives an indication of what approximated an ideal. In real life, however, there were many deviations from this ideal, and prayers seeking deliverance from troubles often enumerate some of them: crying spells, insomnia,

nightmares, fears, inability to enjoy food or drink, sexual inadequacies, and so on.

One can assume from the medical texts that generally a person who considered himself ill was considered so by those around him. The symptoms described usually include those perceived by the patient, such as localized pain or itching, nausea, or the inability to get up and walk. In other cases, it is those around the ill person who perceive him to be ill, as when his behavior is irrational, he keeps forgetting what he has said, or he does not recognize people he knows.

It is probable that home remedies were administered in many cases, and these were most likely fairly simple traditional treatments, utilizing medications that did not carry any unusual risks. The medical texts, however, reflect only the measures taken by professional healers. The various apothecary's inventories that have been preserved may indicate, however, that a good many of the most commonly utilized ingredients were readily available to whoever sought them, whether or not a professional healer had prescribed them for a particular illness.

PERCEIVED ORIGIN OF ILLNESS

People in ancient Mesopotamia surely recognized the natural origin of some illnesses, which might occur as a result of overexposure to heat or cold, overeating, eating spoiled food, or drinking too much of an alcoholic beverage. The fact that some diseases were contagious was certainly recognized (see comments below on the Mari letters), but there was obviously no perception of how (from a modern point of view) contagion occurred. In general, however, illness was perceived as an intrusion coming from outside a person and entering the body in some fashion. It may be that this concept helps to explain the use of purgatives and enemas even for illnesses that do not involve the digestive tract or for complaints that we would tend to see as psychological in origin.

Apparently deeply rooted in Mesopotamian thought was the view that illness or any kind of trouble was punishment sent by the gods because of offenses committed by the sick person.

A Mari official tells a king of his (the king's) conniving daughter, "About Shimatum, who has been voicing calumnies against my lord and concerning whom my lord has complained to God—the God of my lord caught her and mangled her fingers. Moreover, she keeps on having epileptic seizures." These offenses cover a wide range of acts against the social order as well as the breaking of taboos. (See the preceding chapter "Witchcraft, Magic, and Public Health in Ancient Mesopotamia" in this volume.) The taboos might be broken knowingly or unwittingly (an example of the latter might be stepping in water that someone else had washed in). Exhaustive lists of such offenses are given in the tablet series *Šurpu* (Burning). A few lines (not necessarily in sequence) are cited here:

[So-and-So] who has eaten what is taboo to his
god,
who has said "no" for "yes" and "yes" for "no,"
who estranged brother from brother,
who entered his neighbor's house,
who had intercourse with his neighbor's wife.

Typical of this genre are incantations to rid the patient of his illness or troubles that involve the destruction of a plant or other product. An example is "Like this onion he peels and throws into the fire—and fire consumes it entirely—which will not be grown in a plant bed, . . . whose roots will not take hold in the soil, whose shoot will not sprout, (so) may the pain of my hardship, sin, transgression, crime, error, the sickness that is in my body, my flesh, my veins be peeled off like this onion." Similar passages include matting that is unraveled and burned, wool that is pulled apart and burned, and grain that is burned.

Prayers to gods with a plea that punishment for one's wrongdoing be stopped often include a confession, such as, "my misdeeds are numerous, I have transgressed in every way," and "I have knowingly and unknowingly done wrong." The possibilities of offending the gods—and thus bringing illness or troubles upon oneself—were so numerous that people must have been under constant threat of being the object of divine displeasure or wrath.

Another possible source of physical or mental problems was sorcery. Because it so often happens in documented cases from other cultures

that relatives are accused of sorcery, we might expect that some of the Mesopotamian examples would fall into this category. This is seldom the case, however, and most of our references to sorcery are limited to traditional literary formulations. In fact, incantations sometimes mention outsiders, specifically foreign women, as the instigators of sorcery. The usual formulation in the medical texts dealing with sorcery is "if a man has such-and-such symptoms, that man is bewitched." Often the sorcery is attributed to bewitched food or drink that has been consumed, but there are other possibilities, such as some of the victim's hair, nail clippings, spittle, or semen being taken by a witch to use against the victim.

The dead—especially dead relatives—might also trouble the living, particularly if family obligations to supply offerings to the dead were neglected. Especially likely to return to trouble the living were ghosts of persons who died unnatural deaths or who were not properly buried (for example, death by drowning or death on a battlefield). In the diagnostic texts (to be discussed below), "hand of a ghost" is frequently given as the source of a patient's illness. (For a further discussion of ghosts, see the chapter "Death and the Afterlife in Ancient Mesopotamian Thought" earlier in this volume.)

Another major source of illness in the Mesopotamian view was demons. Quite a variety of them are attested in the texts. They usually have some partly human characteristics. They "seize" or "strike" their victims in some way, causing illness or death. Some prophylactic measures could be taken, however, principally wearing an amulet that had on one side a depiction of the demon and on the other an exorcistic incantation.

THE MEDICAL TEXTS

The therapeutic medical texts frequently combine the two types of treatment, the medical (*asûtu*) and the magical (*āšipûtu*). The term "therapeutic" is used to refer to the texts that include prescriptions for treatment, as opposed to the diagnostic texts, which give a diagnosis of illnesses and usually a prognosis but do not

include prescriptions for treatment. The standard therapeutic texts normally describe the complaint, give a list of ingredients with instructions for their preparation, and give instructions for administering the medication. Sometimes a prognosis is given (usually "he will recover"). The usual structure of such texts is "if the patient has such-and-such symptoms, you prepare the following ingredients in the following manner and then administer the prescription as follows." Numerous elaborations could be given, for example, quantities of specific ingredients, the time of day, and the number of days to administer the medication. In a few instances, warnings on toxicity of certain ingredients are given. An example of a prescription is the following:

If a man's tongue is swollen so that it fills his mouth, you dry tamarisk leaves, leaves of the *adāru*-plant, leaves of "fox-grape," (and) "dog's-tongue"-plant; you chop them up finely and sift; you knead them with juice of the *kasû*-plant; you rub the top of his tongue with butter; you put (the medication) on his tongue, and he will get well. (Hunger, *Spätbabylonische Texte aus Uruk*, no. 46, lines 1–5)

Particularly in the case of magical treatments, instructions may include such specifics as "such-and-such plant growing over a grave," "such-and-such plant to be pulled up before sunrise," or "set outside under the stars overnight." Special containers normally made of leather were often included in instructions for magical treatments. They might contain, for example, hair from a black dog, a piece of a dirty (menstrual) rag, or pig manure to be worn around the neck. The corpus of medical texts, being in large measure a compilation of material from what may have been separate corpora of texts of the *asû* and the *āšipu*, contains treatments from both sources mixed together. A considerable number of the medical texts from Asshur have colophons showing that they belonged to a man named Kišir-Assur, who identifies himself as an exorcist of the temple of the god Assur. If he was not merely a bibliophile but made professional use of these tablets, it would appear that there was considerable fluidity and overlap in the use of prescriptions by both categories of healing professionals.

We are probably safe in assuming that we owe

the Babylonian medical compendia chiefly to the fact that expert exorcists, such as Kišir-Assur, also had to be scholars. Because of their widespread activities, the countless rituals to be performed and the incantations to be recited, they necessarily became heavily dependent on the written word. Numerous colophons say as much when they end with the notation "hastily excerpted for a ritual."

PHARMACOLOGY

Knowledge of human anatomy was probably rather limited because, as far as we know, dissection was not performed. Nevertheless, it seems likely that there was some understanding of the body parts (if not necessarily their true functions) by analogy with slaughtered animals, particularly sheep, for which there was very detailed knowledge because of the practice of inspecting the internal organs as a form of divination (extispicy). Some knowledge of internal organs may have been acquired by physicians when they attempted to treat patients who had been gored by a bull or wild pig, or had been wounded in battle.

Without knowledge of the true etiology of specific diseases, physicians could treat only their overt symptoms. It is recognized that in traditional medical systems the practitioner need not necessarily know the cause of an illness to deal effectively with it. It is also a fact that most diseases (degenerative diseases excepted) are self-limiting, and the patient either recovers or dies.

Most of the Mesopotamian medical treatments consisted of herbal remedies. As in other traditional societies, the most common purposes for which herbal medicines were used were to treat gastrointestinal, dermatological, and respiratory ailments. As we know from research into the use of herbal medicine in modern traditional societies, some of these remedies quite likely produced the desired effect, especially in the case of emetics, purgatives, and expectorants.

The beneficial effects of some common products (such as wine and honey) are well known and have been demonstrated in modern experiments. It is well known that certain herbs can produce vomiting (in fact, emetics are often toxic

to some degree, which is why the body's natural defense system causes them to be expelled) and that others are effective purgatives. A good many herbal remedies were probably pharmacologically ineffective, however, with benefits largely limited to calming a patient's anxiety.

The Babylonian medical texts prescribe a great many plant products, usually specific parts of the plant such as leaves, blossoms, seeds, or roots to be prepared in various ways (crushed, cooked, or dried, for example) and mixed with an appropriate carrier (water, beer, wine, or milk for a potion, for example). Knowledge of plant chemistry as such in traditional societies is usually limited, and probably what knowledge practitioners had was a result of cumulative experience with plants. As in other traditional societies, there must have been some knowledge of toxicity in plants, for, indeed, only specific parts of many plants are toxic or are toxic only at a particular stage of their growth cycle. In fact, many of the plants used in medicine are normally not consumed as food, and thus presumably had some disadvantage such as toxicity or unpalatability. Of course, in using many of these drugs, care had to be taken to use a concentration that was therapeutically effective but nontoxic. Many prescriptions call for a large number of ingredients, often combining plant products and minerals. In many cases, the ingredients are summarized as, for example, "these fourteen ingredients you take and prepare (as follows)."

MEDICAL TREATMENT

In considering the various diseases that may have occurred in ancient Mesopotamia, we need to bear in mind the possibility that some diseases have mutated and that, therefore, we need not necessarily seek in the ancient textual records or in the human skeletons for evidence of every disease now known to occur in the area today.

Eyes

A considerable number of medical texts deal with eye problems, surely reflecting the widespread occurrence of eye diseases in ancient Mesopotamia. The common Akkadian words for "blind" do not occur in the medical texts, however, and it does not appear that any treatments were attempted. Marten Stol has proposed that the rare term *sinlurmâ* (and variants) in medical texts is to be identified as both day blindness and night blindness. Because one of the principal causes of blindness in children is a deficiency of vitamin A, it seems likely that the disease xerophthalmia (one of whose early manifestations is night blindness) was widespread in ancient Mesopotamia, as it still is in many parts of the world where foods containing vitamin A are either unavailable or underutilized.

Ears

There are also a number of texts that deal with problems of the ears, including earaches, ringing

Identifying Ancient Prescription Plants

It is difficult to determine what specific plants and minerals were used. The common minerals and some plants, especially those cultivated as food crops, can be identified reliably. It must be stated frankly that most of the plants listed in prescriptions cannot be identified plausibly and that, therefore, we are not in a position to reproduce most of the prescriptions we have or to understand the effects of specific medications. This is a very serious lack in our understanding of Babylonian medicine and is one that cannot be overcome when studying an ancient traditional society. Many identifications of plants were proposed by Reginald Campbell Thompson (see bibliography). He had a certain advantage in being familiar with uses

of plants (particularly in northern Iraq) in local folk medicine, but a number of his identifications depended on dubious etymologies. In theory, the study of ancient carbonized seeds from archaeological sites and the study of ancient pollen should help to identify the plants that actually grew in ancient Mesopotamia. So far, the information available is too little to be of major value in identifying medicinal plants, and the problem would still remain of associating plant remains with the names of plants found in the texts. Some progress in this direction may come from articles appearing in the journal *Bulletin on Sumerian Agriculture* (for example, Wilcox and Postgate in the bibliography).

of the ears, and hearing loss (the word for “deaf” does not occur in the therapeutic medical texts, however). One of the most frequently prescribed remedies for ear problems was the application of pomegranate juice, possibly considered effective because of its astringency.

Teeth

The teeth are the subject of a number of medical texts. Understandably, toothache is the most frequent complaint treated, though the teeth are also described as loose or falling out. Both therapeutic and magical treatments were given for tooth problems. We have little evidence for the practice of dentistry as such, though it is possible that there were practitioners who were skilled at pulling teeth. The cosmological incantation of the “tooth worm” contains brief instructions to the practitioner, apparently an expert in tooth problems, to drive in a pin. This is the only textual evidence for dental interventions.

After Anu [had created the sky],
The sky had created [the earth],
The earth had created the rivers.
The rivers had created canals,
The canals had created the marsh,
The marsh created the worm.
The worm went forth weeping, before Shamash,
Before Ea in tears (saying),
“What will you give me to eat?
What will you give me to suck on?”
“I will give you ripe figs, *armannu* fruit,
apples.”
“Of what use to me are ripe figs, *armannu* fruit,
and apples?
(Instead), raise me up and let me live between
the teeth and the jaw!
I will suck the blood from the teeth!
I will chew upon the food in the jaw!”
(Instructions to dentist:) Drive in a pin and seize
its foot.
“Because you have spoken thus, O worm,
May Ea strike you with all the strength of his
hand!”
Text for tooth trouble.
Procedure: you mix together beer, a lump of
malt, and oil;
You recite the (above) incantation over it three
times;
you put it on his teeth.

The colophon, indicating that this is an old text, reads as follows: “Copy of a ‘long’ tablet, according to the wording of an old baked tablet belonging to Marduk-nadin-akhi; Nabu-nadin-ipri, descendant of Kudurranu, copied it.”

Gastrointestinal Problems

Many texts deal with gastrointestinal problems, as would be expected in a society in which there was water contamination, food contamination, inadequate food preservation, and other factors that encourage intestinal problems. Common problems are passing blood, rectal stricture, constipation, and flatulence. Such problems were treated by a variety of means, including suppositories and enemas. While it seems unlikely that there was much understanding of the liver’s function, it appears to have been recognized that the gall bladder could be involved when jaundice (*amurriqānu*) occurred.

Timothy Johns has suggested that the treatment of parasitic and digestive disease is fundamental to the origin of human medicine. Indeed, many treatments in Mesopotamian medicine involving the gastrointestinal system may have been intended to control intestinal parasites. It seems likely that parasitic diseases such as bilharzia were endemic in southern Mesopotamia, but we cannot identify in the texts the treatments that were given to their various manifestations.

Problems of the Urinary Tract

Some texts appear to describe bladder or kidney stones, which, when passed, cause considerable pain and bleeding. Other texts mention incontinence in such phrases as “he keeps dribbling his urine and cannot hold it in.” Such a case might be treated by introducing medication into the urethra through a bronze tube.

Skin

As one might expect in the sunny, arid Mesopotamian climate, skin problems were very frequent, and a considerable number of medical texts reveal prescriptions for treating skin conditions. Diseases such as chicken pox (it is not certain that it existed in ancient Mesopotamia), one of whose manifestations is lesions on the skin,

would have been treated as a skin problem. Because of the intense exposure to the sun, skin cancers may well have occurred, but there is no direct evidence. A protozoal infection such as leishmaniasis ("Baghdad boil") would also have been treated as a skin disease. Vegetable oils and the fat of various animals were often used for applications to the skin.

Strokes and Heart Attacks

Because of imprecision in the descriptions of symptoms in the medical texts, it would be difficult to distinguish specific examples that could be confidently identified as heart attacks or strokes. An example, however, can be cited from a Mari letter in which it appears that a man was struck with a sudden attack and died immediately: "(He said) 'There is something wrong with my foot.' As soon as he said 'my foot,' he said 'there is something wrong with my hand,' and immediately he passed away."

Mental Illness

Generally speaking, it appears that mental illness, which probably included a wide range of conditions that resulted in memory loss or aberrant behavior, was treated by magical means. James Kinnier Wilson has devoted a number of studies to this topic. (See, for example, his article "Mental Diseases of Ancient Mesopotamia" cited in the bibliography below.)

Pregnancy and Childbirth

"Female problems" connected with pregnancy and childbirth are often addressed in the medical texts. There are numerous prescriptions for a physician to treat a woman with complications after childbirth, but there are no indications in the medical texts that physicians assisted the delivery of babies. Rather, the assistance was provided by a midwife (*šabsūtu*), probably aided by a female relative. Numerous texts, however, offer prescriptions for giving birth easily and for making a barren woman conceive. An example is "Total: 21 stones to help a barren woman become pregnant; you string them on a linen thread and put them around her neck."

There is one text that apparently gives prescriptions for aborting a fetus. The relevant line

reads, "to cause a pregnant woman to 'drop' her fetus." The prescriptions consist of eight ingredients to be administered to the woman in wine and to be drunk on an empty stomach. The section ends with the words, "that woman will 'drop' her fetus."

Illnesses of infants and children are detailed in chapters of the omen collection known as *SA.GIG* (see below), but children's diseases or illnesses are not mentioned at all in the therapeutic medical texts. We know, however, from the Mari letters that physicians did in fact treat children. Children's illnesses are also addressed in the magical series *LAMAŠTU*. (See "Witchcraft, Magic, and Divination in Ancient Mesopotamia" later in this volume.)

Leprosy

A great deal has been written on the question of whether leprosy occurred in the ancient world. Evidence now suggests the occurrence of true leprosy in Palestine in the Byzantine period, but we would not at present be justified in suggesting its occurrence in ancient Mesopotamia at an earlier time.

Use of Drugs

Of the various possibilities for use of drugs in ancient Mesopotamia, only alcohol is unambiguously attested in the written sources. The techniques for distillation were not known, so "hard" liquor was not used. The most widely consumed alcoholic beverage was beer (*šikāru*), of which many varieties were produced. Wine (*karānu*) was produced in Assyria and was imported into Babylonia. Both beer and wine occur frequently in medical prescriptions.

Because an ancient commentary describes the *azallû* plant as "a plant for forgetting worries," it has sometimes been suggested that the plant may have had narcotic properties. Various parts of the plant were used for potions and in salves, but there is no evidence that it was ever used alone. To judge from its use in medical prescriptions, there is no reason to suspect that it had any special narcotic qualities.

Paleobotanists have not found any evidence for the growing of opium poppies in the ancient Near East, and attempts to identify an object

depicted on Assyrian reliefs as an opium poppy are unconvincing. There is thus no plausible evidence for the use of opium in ancient Mesopotamia.

THE ASÛ

Functions

A considerable amount has been written on distinguishing medical treatments from magical and separating the functions of the *asû* from those of the *āšipu*. It appears, however, that the distinction is more theoretical than real. At one time, it was believed that the etymology of the term *asû* (a Sumerian loanword in Akkadian) was Sumerian A, "water," and ZU, "know," thus, "one who knows the waters," presumably for the physician's knowledge of the use of liquids in medical treatments. In the third millennium, however, the relevant cuneiform sign ZU and another sign meaning "to know" differ, so the etymology of *asû* is unknown and thus of no help in determining the activities of physicians in early historical times. If we disregard etymological speculations and consider what we see the *asû* doing in actual texts, we get a picture of a practical person (there were, in fact, some female physicians) who could manipulate and set broken bones, lance boils, treat battle wounds, and treat internal and external illnesses with herbal medicines. A few lines from a hymn of self-praise of the goddess Gula (one of whose epithets is *azugallatu*, "great physician") may help to illustrate some of the activities of the *asû*:

I am a physician, I can heal,
I carry around all (healing) herbs, I drive away
disease,
I gird myself with the leather bag containing
health-giving incantations.
I carry around texts which bring recovery,
I give cures to mankind.
My pure dressing alleviates the wound,
My soft bandage relieves the sick.
(Lambert, "Gula Hymn," p. 121)

Notably lacking in this description of the *asû*'s paraphernalia is any mention of the scalpel (which we know was in fact used); by contrast,

there is specific mention of incantations, which would seem to indicate that the *asû* also used incantations in treatment.

The hymn cited above specifically mentions texts as part of the *asû*'s accoutrements. While there are references to physician-scribes, we do not know to what extent the *asû* utilized the medical texts in practice. Some aspects of medical practice (setting of bones, surgery, treating of battle wounds) are mentioned rarely or not at all in the texts, indicating that these were skills that one acquired through observation and practice (presumably in an apprentice relationship) for which written instructions would be of little use. Many of the medical texts that, from their lack of treatments that are specifically magical, would seem to belong to the *asû*'s repertoire simply describe the symptoms and give a prescription with instructions for administering it.

A letter from Mari notes the use of plants by an *asû* for the treatment of a particular illness: "Say to Yasmakh-Addu (Yasmakh-Adad), thus (speaks) Ishme-Dagan, your brother: The plants that your physician sent me are excellent. If there is a *simmu* illness, that plant cures it immediately. I have just sent Shamshi-Addu-tukulti, the young physician, to you so that he can examine that plant. Send him back to me."

Training and Accountability

Our knowledge of the training of physicians is rather limited. There are no apprentice contracts involving physicians, and there are no explicit references to their training in other sources. We know a bit more, but only by implication, from a Babylonian tale known as "The Poor Man of Nippur," probably composed about the middle of the second millennium, in which the hero disguises himself as a physician in order to be admitted into the presence of the mayor of Nippur. Appearing with his hair shaved off, he arrives at the mayor's residence and announces that he is a physician from Isin (suggesting that this may have been the typical appearance of a physician at the time). His claim to be a physician from Isin immediately identified him as an expert physician (Isin was well known as the cult center of Gula, goddess of healing, and it seems likely that it was a center for training physicians). The training obviously included the

treatment of wounds, for he is to treat the wounds of the mayor inflicted on him by the same man using a different disguise.

The evidence is too slight to indicate whether *asûs* normally learned to read and write. Probably not too much should be made from a humorous tale, but, in one example, called by Reiner "Why Do You Cuss Me?" the point was that a physician from Isin did not understand Sumerian when it was spoken to him (this seems contrary to the assumption that Sumerian was a basic element of the school curriculum). (For the two tales just cited, see "Humor and Wit in the Ancient Near East" in Part 9, Vol. IV.)

It is possible that physicians were organized into a professional group, for the title "chief physician" is attested; but there is no evidence that they were under the supervision of any particular public authority. By analogy with scribal schools, it may be that the medical school at Isin (whose existence is merely suggested here) may have had some system of examinations to pass before one was entitled to call himself a physician of Isin. If this is true, it would imply that there was a group of master physicians who had some control over curriculum and the list of skills to be acquired. In any case, physicians were strictly lay experts, and there is no evidence for sacral supervision at any time.

It would seem that physicians were not subject to legal sanctions in the normal course of their work. An exception is that a physician was held liable when a patient died as a result of an operation or lost an eye because of his surgical intervention, with penalties varying according to the social status of the patient. The penalty for death or loss of an eye in the instance of an upper-class person was having a hand cut off, but only compensation was required in the cases of commoners or slaves. We do not know whether this provision was actually carried out, but severing the hand of a physician seems particularly unlikely. In any case, the *Code of Hammurabi* (eighteenth century) treats malpractice by a physician in the same category as a boatwright who makes a boat that sinks or a mason whose negligence causes a house to collapse. As Guido Majno has observed, a physician was not held liable for death or unsuccessful treatments unless he used his knife.

Social Setting

From Middle Babylonian Nippur we have a number of letters from physicians who were treating a group of patients, some of them young women. It has been suggested that they were a group of musical students; in any case, it appears that they were housed as a group. It seems unlikely that this should be considered a hospital setting, however. These letters are addressed simply to "my lord," not otherwise identified, but surely a high official. An example of such a letter is given here in translation:

[Say to my lord]: [thus (says) . . . -muball]it, your servant: I am ready to die as my lord's substitute. [As to . . .] about whom my lord wrote me, their [. . .] are well. The patient whose chest is sick was prescribed a dressing, and is kept bandaged; he is also taking a potion against tracheitis. And the other one whose chest [. . .] . . . ; when I assigned a poultice for him, no *ašû* herb was available. And my lord knows that if only a single herb is missing, it will not succeed. I asked the mayor to send word to a gardener, and [. . .]. The daughter of Muštālu who was coughing but not spitting out has started to expectorate after I gave her [appropriate] potions; but [. . .] now she is constipated. I gave her a potion for constipation to drink, and she is taking it, (but) there is no *šarmadu* herb and drawn wine available. Let my lord send (some) so that I can have her drink, lest she develop "Hand of Curse." The princess who had repeated attacks of fever has now calmed thanks to the dressing and potion. As to the herbs of which I spoke to my lord, let my lord not forget about them. [A list of specific but unidentifiable plants follows.] (Parpola, *Letters from Assyrian Scholars*, pp. 494-495)

There are a number of letters from the court physicians dating to the time of the Assyrian king Esarhaddon. In these letters we see not only herbal medicines being prescribed (a practice we also saw at Mari in the letter cited above), but the use of magical treatments as well. Esarhaddon's illnesses have been studied in considerable detail. (See "Esarhaddon, King of Assyria" in Part 5.)

THE ĀŠIPU

It was the *āšipu* who dealt with illness of a supernatural origin (supernatural from our point of

view, not the Babylonians', for whom the transcendental world of the supernatural was a reality): divine displeasure, sorcery, ghosts, and especially demons (as discussed above).

Functions

The *āšipu*, "exorcist" or "magician," had sacral functions, some of which had nothing to do with illness. It was he, for example, who ritually cleansed temples before their use for religious ceremonies. An Assyrian text from Asshur gives a long list of text categories for which he was responsible. They include such diverse subjects as diagnostic omens (described further below), physiognomic omens, texts to quiet babies, and a great many collections of magical texts having to do with demons and ghosts (included are two series, *abnu šikinšu* and *šammu šikinšu*, which describe minerals and plants and their uses in treating illnesses).

The *āšipu* (always a man), in his role that concerns us here, was the diagnostician par excellence. It was he who interpreted the symptoms and sought the cause of afflictions. In some cases, another specialist was called in to ascertain the origin of an affliction. This was the diviner (*bārû*), who, through extispicy, sought to identify the cause of illness. He could also determine whether it was propitious to treat a patient. An example from an actual Neo-Assyrian case is "If you perform (the extispicy to find out whether) to give a medical treatment (the answer is) the *asû* should not lay his hand on the patient."

An especially interesting example can be cited of the apparently fluid boundaries between the practice of the *āšipu* and that of the *asû*. In a document datable to 681, Urad-Gula is listed as a deputy of the chief physician. In 671 he is listed as an *āšipu*. Several years later he was dismissed, but then in 650 he is listed as an *asû*. This example comes from the Assyrian royal court, and we do not know whether it was a very special case.

Training and Resources

Nothing specific is known from ancient texts concerning the training of exorcists. As they had to consult a great many written sources, it is likely that their training included some years in the

scribal schools so that they could read the texts themselves as needed or make copies for the use of colleagues. A number of colophons list an exorcist as the scribe, the owner, or both of medical texts. It seems likely, however, that particular practitioners may have committed commonly used texts to memory and that, except in the royal court and in urban centers, many exorcists may not have needed to know how to read or write.

The *āšipu* was aided in his diagnoses by an extensive series of texts. Because of its importance in his role as a professional healer, it needs to be discussed briefly here. The series as a whole, consisting of forty tablets (or chapters), was known by its Sumerian title, SA.GIG (Akkadian *sakikkû*), but also by the opening line of its first chapter, "When an *āšipu* goes to the house of a sick person." This first chapter is concerned entirely with the *āšipu*'s chance encounters on his way to the patient's house (for example, "if he sees pigs that keep lifting their tails," "if he sees a deaf person"), each of which entails a prognosis for the patient. Further on, there is a chapter that is more a medical manual, giving symptoms, etiology, diagnosis, and prognosis (the latter usually simply "he will recover" or "he will die," but also such predictions as "he will live a long time but will not recover," and "he will die in three days"). In many instances, the diagnosis is that the patient is suffering from the "hand" of a particular deity or demon. Examples of other diagnoses are "he has had intercourse repeatedly with a married woman," "he had sexual relations with his mother," and "the ghost of someone who was burned alive has seized him." In some instances, one can see an association between the affliction and the deity to whom it is attributed, most notably in the instances of venereal complaints being attributed to Ishtar. A final group of chapters in this long series deals with pregnant women and gives predictions for the woman and for her child.

Oppenheim has suggested that the *āšipu* observed the pulse of patients as part of the bodily characteristics on which he based his diagnosis and prognosis. There is no indication that there was any awareness of the circulation of blood, however.

One of the chief resources of the *āšipu* was

the collection of incantations. Many hundreds of such texts have survived. They go back as far as the Sumerian incantations from the middle of the third millennium mentioning ŠÀ.GIG, literally "sick belly," and it may well be that even at that early time incantations were being used in the treatment of illnesses. The incantations range from those of obvious Sumerian origin (often in copies with interlinear Akkadian translations), many of which are directed against demons, through stereotyped appeals to the sun-god Shamash, as god of justice, to brief incantations that seem to reflect a popular rather than a scholarly tradition. Some appear to be abracadabra. The incantation needed to be accompanied by certain actions on the part of the performer (or the patient). Of the surviving incantations from before the middle of the second millennium, only a very few are accompanied by written instructions to the practitioner, and we can only assume that he knew what actions were called for. It may be that particular importance was attached to preserving the correct wording of incantations, while a certain flexibility was allowed in the performance of the ritual. After the middle of the second millennium, the instructions are normally given immediately following the incantation. They consist, for example, of instructions for setting up a brazier, preparing a censer, or making offerings or libations to the particular deity being addressed; the instructions normally end with directions for removing the equipment used in the ritual. The incantations were normally recited by the *āšipu* either three or seven times. In some instances, however, it is explicitly said that the patient is to recite the incantation (the instructions say, "You have him recite the following"). The following are two instructions:

If a man has been "seized" by a ghost and the *āšipu* is unable to get it to withdraw, you crush together the following [a list of unidentifiable plants follows], you rub him with oil, you wrap up (the herbal mixture) in a piece of leather and put it around his neck.

If "hand of a ghost" is persistent in a man's body and cannot be gotten rid of, to expel it you take (various minerals) and carob seeds, you char them over coals, you pulverize them, you mix with cedar resin; you recite (the following) incantation seven

times. (Köcher, *Babylonisch-assyrische Medizin*, no. 221. iii. 14-24)

Besides dealing with illness of various sources discussed above, the *āšipu* was a sort of sex therapist. There was a special collection of texts known by its Sumerian name, ŠÀ.ZI.GA (translated into Akkadian as *nīš libbi*, literally, "lifting of the heart," where "heart" seems to be a euphemism for penis). Some of the incantations, often of an erotic nature, are ostensibly recited by women. When any cause is given for a man's loss of potency, it is usually attributed to sorcery. Some of the usual herbal remedies are prescribed, which differ in no significant way from standard therapeutic prescriptions, but specific to this group of texts are items taken from sexually excited or copulating animals or birds. An example is the following passage from a Middle Babylonian text: "If a man loses his potency, you dry and crush a male bat(?) that is ready to mate, you put it into water which has sat out on the roof, you give it to him to drink; that man will then recover potency." A quite different approach is involved when the man's and the woman's sexual organs are to be rubbed with specially prepared oils, sometimes mixed with magnetic iron ore. (For a brief example of an incantation associated with potency rituals, see the chapter "Witchcraft, Magic, and Divination in Ancient Mesopotamia," above.)

SURGERY

There has been considerable discussion over many years regarding the extent to which physicians in Mesopotamia practiced surgery. Such discussions usually concern the eye operation mentioned in the *Code of Hammurabi*, sections 215-220. Whatever the procedure may have been, it is unlikely that any very complicated surgery was undertaken. The physician's scalpel was most likely used mainly to lance boils and for bloodletting—the latter sparsely attested in the medical texts. It is not known whether bloodletting was a widespread practice.

Very little paleopathological study has been published on human remains from ancient Mesopotamia for, unfortunately, it used to be that human bones were rarely preserved by ar-

chaeologists excavating sites of the historical periods. Probably the most extensive collection is from the excavations of J. N. Postgate at Abu Salabikh from the third millennium. Some of the graves have been published, but detailed paleopathological studies have not yet appeared.

There is no evidence in ancient Mesopotamia for trephination (perforating the skull with a surgical instrument, usually for the purpose of draining fluids), though it appears that it was practiced at least occasionally in other parts of the Near East, especially Egypt. As far as we know, circumcision was not practiced in Mesopotamia, though, of course, it was widely practiced in other areas of the Near East.

In the years since Oppenheim believed he had found evidence for the cesarean section in Babylonia, his proposal has often been taken as fact. Despite the addition of further texts and continued discussions by several scholars, it must be said that a convincing case has not been made and that it remains an unproved suggestion.

Whatever limited surgical procedures may have been undertaken—and these might have included cases of battle wounds or injuries sustained by being gored by a bull or a wild pig—they are not covered in the medical compendia. Such techniques as were used were probably learned in an apprentice relationship with a more experienced physician or developed in emergency situations. It is easy to believe that the infection rate in any surgical procedure must have been high and that serious surgical interventions were undertaken only in dire cases as a last resort. This is only speculation, however, for the ancient texts are silent on the question.

PUBLIC HEALTH

It is difficult to speak of public health as though there were a governmental office that was concerned with preventive medicine or with control strategies when there were serious outbreaks of illness. It is especially clear from the letters from Mari (early second millennium) that measures were taken to try to control the spread of appar-

ently contagious illnesses among the population. A number of letters refer to populations of whole villages being moved elsewhere, normally to higher ground. There was indeed a realization that some illnesses could be transmitted easily from one person to another, so, at least to some degree, there was isolation of the ill when their illnesses appeared to threaten the community. The following letter illustrates such a situation:

I have heard that the woman Nanna is ill with *simmum* disease, but she has (nevertheless) been in contact a great deal with the palace (servant women) and that she has infected many of the women around her. Give strict orders that no one drink from a cup she drinks from, that no one sit on a chair she sits on, and that no one sleep in a bed she sleeps in so that she does not infect (any more) of the many women around her. That *simmum* disease is (easily) caught!

Indeed, the chances of encountering infectious microorganisms or viruses must have been quite high in the close quarters of palace life.

Some illnesses which gave every appearance of being contagious were surely mycotoxicoses—illnesses caused by consumption of cereal crops contaminated by toxic molds (the toxins in these molds are unaffected by cooking and baking). The evidence is necessarily circumstantial, but it is surely significant that some texts mention illness affecting both humans and domestic animals, especially cattle. It is known that the livers of cattle are less able to process toxins than are the livers of sheep, and therefore it is not surprising that the texts specifically mention illnesses of cattle. Descriptions of the condition of sick bulls in Mari letters are consistent with modern evidence concerning cattle poisoned by toxic molds, particularly when the poisons result in gangrene of the extremities.

There are apparently no studies specifically of measures taken in ancient Mesopotamia to deal with human wastes. Drainage systems, presumably to collect rainwater, are amply attested in archaeological reports of Mesopotamian sites. There were, in fact (in some towns and cities, at any rate), sewer systems consisting of terracotta pipes that drained urine and probably feces as well (such pipes and the soil around them have the characteristic discoloration found

in excavated privies). Whether such sewer systems were created as a health measure or for aesthetic purposes cannot be determined, but the practical result may have been a health measure.

It may well be that groups of people who were ill were given treatment at the same house, palace, or other location, but it cannot be suggested that there was any institution resembling hospitals as they are known in the early Islamic Near East at such places as Jundi-Shapur or among Christians in medieval Europe.

VETERINARY MEDICINE

Veterinary medicine in ancient Mesopotamia is known from various sources. The *Code of Hammurabi* refers to treatments for oxen and asses, and an Old Babylonian letter mentions a veterinarian for cattle. A third-millennium lexical text gives the term for veterinarian for asses. There are texts in Akkadian and Ugaritic dealing with illnesses in horses. A brief example: "(These are) eight ingredients for equine colic; (you mix them with) pressed wine; you pour it into his left nostril and he will recover."

CONCLUSION

This essay has sketched the most salient features of medical practice in ancient Mesopotamia. Mesopotamian medicine, attested in various forms over nearly three millennia, remained, as far as we can tell, largely within the general traditions of herbal medicine such as has been practiced in various parts of the world. There are some parallels between Mesopotamian medicine and medicine as attested in ancient Greece, but it does not appear that Greek medicine (in contrast to such fields as mathematics and astronomy) was in any way derivative of Mesopotamian medicine. While Mesopotamian medicine is among the best documented in the ancient world, and is of interest in its own right, it cannot be claimed that it was a direct precursor to the "scientific" medicine now practiced in most parts of the world.

BIBLIOGRAPHY

Overviews and General Works

ROBERT D. BIGGS, "Medizin," in *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* 7 (1987–1990), includes references to detailed discussions of particular points; JEAN-MARIE DURAND, "Maladies et médecins," in *Archives épistolaires de Mari* 1, no. 1 *Archives royales de Mari*, vol. 26 (1988), is a detailed discussion and publication of letters dealing with illness, death, and the practice of medicine as reflected in the Mari letters of the early second millennium (Mari letters cited in this chapter are edited and discussed by Durand in pp. 543–584); DIETLINDE GOLTZ, *Studien zur altorientalischen und griechischen Heilkunde: Therapie—Arzneibereitung—Rezeptstruktur* (1974), is a detailed study of preparation procedures and terminology of medical prescriptions in Babylonia and in Greece; TIMOTHY JOHNS, *With Bitter Herbs They Shall Eat It: Chemical Ecology and the Origins of Human Diet and Medicine* (1990), while not dealing specifically with the ancient Near East, is a volume that raises a number of issues, especially concerning plants used for food and plants used for medicinal purposes; FRANZ KÖCHER, *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, 6 vols. (1963–1980), contains cuneiform copies of Babylonian and Assyrian medical texts (the volumes of studies and translations have not yet appeared); GUIDO MAJNO, *The Healing Hand: Man and Wound in the Ancient World* (1975), is written by a pathologist, and includes results of a number of experiments intended to duplicate ancient medical treatments; HARRIET P. MARTIN, JANE MOON, and J. N. POSTGATE, *Graves 1 to 99, Abu Salabikh Excavations*, vol. 2 (1985), describes the contents of the graves, including the skeletal remains, but does not include a scientific study of the bones (planned for a later volume); A. LEO OPPENHEIM, "Medicine and Physicians," in *Ancient Mesopotamia* (1964; 2nd ed., rev. by ERICA REINER, 1977); SIMO PARPOLA, *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal*, part 2, *Commentary and Appendices*, *Alter Orient und Altes Testament*, vol. 5, no. 2 (1983); MARVIN A. POWELL, "Drugs and Pharmaceuticals in Ancient Mesopotamia," in *The Healing Past: Pharmaceuticals in the Biblical and Rabbinic World*, edited by IRENE and WALTER JACOB (1993); and E. K. RITTER, "Magical-Expert (= *āšipu*) and Physician (= *asû*): Notes on Two Complementary Professions in Babylonian Medicine," *Studies in Honor of Benno Landsberger*, *Assyriological Studies*, vol. 16 (1965), is a detailed study attempting to distinguish magical and scientific elements in Babylonian medicine.

Translations of Original Texts

WALTER FARBER, *Schlaf, Kindchen, schlaf! Mesopotamische Baby-Beschwörungen und -Rituale* (1989), is an edition of the textual series, "To Make a Child Quiet"; O. R. GURNEY, "The Tale of the Poor Man of Nippur," *Anatolian Studies* 6 (1956), is an edition of a humorous Babylonian story with discussion of parallels from folk literature; W. G. LAMBERT, "The Gula Hymn of Bulluša-rabi," *Orientalia*, n. s. 36 (1967), is an edition and translation of a hymn to the Babylonian goddess of healing; ERICA REINER, *Šurpu: A Collection of Sumerian and Akkadian Incantations*, *Archiv für Orientforschung*, Beiheft 11 (1958); and her "'Why Do You Cuss Me?'" in *Proceedings of the American Philosophical Society* 130 (1986), is a translation of a Babylonian tale that could also be called "The Tale of the Illiterate Doctor."

Plants and Drugs

WALTER FARBER, "Drogen im alten Mesopotamien—Sumerer und Akkader," in vol. 2 of *Rausch und Realität: Drogen im Kulturvergleich*, edited by GISELA VÖLGER and KARIN VON WELCK (1981), has a detailed discussion of possible use of drugs, including alcohol, in ancient Mesopotamia; H. HUNGER, *Spät-babylonische Texte aus Uruk*, vol. 1, no. 46 (1976); J. N. POSTGATE, "Notes on Fruit in the Cuneiform Sources," *Bulletin on Sumerian Agriculture* 3 (1987); REGINALD CAMP-BELL THOMPSON, *Dictionary of Assyrian Botany* (1949); G. H. WILCOX, "List of Trees and Shrubs of Economic Importance in Iraq," *Bulletin on Sumerian Agriculture* 3 (1987).

Individual Conditions and Illnesses

ROBERT BIGGS, *ŠA.ZI.GA: Ancient Mesopotamian Potency Incantations*, Texts from Cuneiform Sources,

vol. 2 (1967), is an edition with translation of the Babylonian incantations and rituals intended to restore sexual potency in men; his "Ergotism and Mycotoxins in Ancient Mesopotamia?" *Velles Paraules: Ancient Near Eastern Studies in Honor of Miguel Civil*, *Aula Orientalis* 9 (1991), discusses evidence for toxic models in ancient Mesopotamia. JAMES KINNIER WILSON, "Mental Diseases in Ancient Mesopotamia," in *Diseases in Antiquity*, edited by D. BROTHWELL and A. T. SANDISON (1967). A. LEO OPPENHEIM, "A Caesarean Section in the Second Millennium B.C.," *Journal of the History of Medicine and Allied Sciences* 15 (1960), suggests that the cesarean section was performed occasionally on slave women to save a child who would otherwise die with the mother during childbirth. See also his "On the Observation of the Pulse in Mesopotamian Medicine," *Orientalia*, n.s. 31 (1962). ERICA REINER, "Babylonian Birth Prognoses," *Zeitschrift für Assyriologie* 72 (1982), discusses Babylonian pregnancy tests with discussion of texts concerning conception. J. A. SCURLOCK, "Baby-Snatching Demons, Restless Souls, and the Dangers of Childbirth: Medico-magical Means of Dealing with Some of the Perils of Motherhood in Ancient Mesopotamia," *Incognita* 2 (1991). MARTEN STOL, *Epilepsy in Babylonia*, Cuneiform Monographs, vol. 2 (1993), is an important new monograph; also see his essay, "Blindness and Night-Blindness in Akkadia," *Journal of Near Eastern Studies* 45 (1986); his "Leprosy: New Light from Greek and Babylonian Sources," *Jaarbericht van het Vooraziatisch-Egyptisch Genootschap Ex Oriente Lux* 30 (1989), has a detailed discussion of the question of leprosy in the ancient Near East. JOSEPH ZIAS, "Death and Disease in Ancient Israel," *Biblical Archaeologist* 54 (1991), written by an expert in paleopathology, discusses leprosy in particular.

SEE ALSO **Medicine, Surgery, and Public Health in Ancient Egypt** (Part 8, Vol. III) and **Witchcraft, Magic, and Divination in Mesopotamia** (Part 8, Vol. III).

Astronomy and Calendars in Ancient Mesopotamia

FRANCESCA ROCHBERG

INQUIRY INTO THE HEAVENS, which took such diverse forms as celestial omens, horoscopes, and descriptive and mathematical astronomy, occupies a central place in the cultural and intellectual history of ancient Mesopotamia. The earliest evidence of systematic treatment of celestial phenomena appears in Old Babylonian (circa 1700 BCE) lunar and solar omens. Divination seems to have provided the scholastic context for the further development of astronomy, and by the seventh century BCE, scholar-scribes of the Neo-Assyrian royal court regularly observed the heavens and made prognostications about political and economic events from the phenomena observed. These scribes had at their disposal standard reference texts for both omens and astronomical data, such as dates of stellar risings, periods of planets, and arithmetical models for the computation of, for instance, the duration of visibility of the moon and the length of daylight. The traditions of astrological omens as well as astronomy continued even after the Persian and, later, Macedonian Greek conquests. Shortly after 500 BCE, however, astrology and astronomy underwent significant changes, marked chiefly by the introduction of horoscopy and mathematical astronomy. These new sciences, along with their more traditional forms, were preserved within the Babylonian temple, the last remaining Babylonian institution to survive into the first century CE. Elements of Babylonian as-

tronomy and astrology entered the traditions of Greek science and continued to have broad impact on Greco-Roman and eventually medieval European science.

THE EARLY PERIOD (CIRCA 1800–500 BCE)

Celestial Divination

Prediction of the future on the basis of heavenly phenomena is first attested in written form in Old Babylonian scholarly divination. The organized and systematic nature of the earliest celestial divination texts surely indicates the importance of the subject at an early date. A primitive sort of astronomical knowledge, of a level attained by many traditional cultures, can probably be assumed for Mesopotamia at least in the third millennium, if not before, particularly given the dependence on the seasonal indicators of sun and moon for management of calendars and agricultural life. But the origin of the specific form of astronomical inquiry attested in the Old Babylonian celestial omens is lost to us. An ultimate background in folk traditions of fortune-telling by the stars, while not impossible, is no longer recoverable from the evidence preserved.

This second-millennium astrology was lim-

ited to the interpretation of celestial omens, whereby a sign in the sky was associated with a terrestrial event, usually concerning the king or the country as a whole. Early astrological omen texts deal primarily with lunar signs, and particularly with eclipses, but omens from the appearance of the sun as well as the effects of winds are also attested. The following is an excerpt from an Old Babylonian tablet of lunar eclipse omens:

The right side of the eclipse is crossed over (by the shadow); nothing is left (uncovered): There will be a devastating flood everywhere.

An eclips[se in] its middle (part); it becomes dark all over and clears all over: The king will die; destruction of Elam.

An eclipse begins in the south and clears: Downfall of the Subarians and Akkadians. An eclipse in the west: Downfall of the Amorites.

An eclipse in the north: [Downfall of the Ak]-kadians.

An eclipse in the east: Downfall of the Subarians.

How the predicted events were originally associated with the event in the heavens is not explained in the sources, and thus remains a matter only for speculation. Perhaps at some point association was made by simultaneous occurrence, but some cases may be regarded as products of scholastic criteria. While omen astrology was no doubt essentially an observational practice, one cannot account for some of the omens by observation (for example, "if the sun shines at midnight"). The only explanation can be that an important aspect of the system was the schematic arrangements of the phenomena in the protasis, which is the conditional part of the omen. Entries appear that cannot occur but that fulfill certain criteria of schematic symmetry, such as up and down, right and left, bright and dim, and the like, even if the phenomena have to be "stretched" to fit such patterns. Although such "phenomena" may never have been observed, the possibility of their occurrence was something with which the scribes had to reckon, particularly since prodigies and freaks of nature were generally taken to signal disastrous events.

The schematic symmetries and patterns of analysis for natural phenomena that underlie celestial divination and later Babylonian astrology are perhaps what is referred to by the Akkadian phrase "cosmic designs" (*uṣurāt šamê u erṣeti*), literally "plans of heaven and earth." The cosmic designs, perhaps the image of universal order, are frequently associated with what are called cosmic "destinies" (*NAM.MEŠ = šīmātu*), as in the divine epithet "lord of cosmic destinies and designs." The complementary relationship between heaven and earth seems to underlie the belief that the gods signaled impending events on earth by means of heavenly phenomena. Correspondence could be made on such a basis between the human sphere of existence and that of the divine or cosmic. Physical manifestation of the contact between divine and human took the form of the correlations between heavenly and earthly events recorded in omen texts. Once established, these correlations provided the *modus operandi* for celestial divination.

Considerable development of celestial divination is attested from the Kassite period, at which time a comprehensive series of omens for lunar, solar, stellar, planetary, and weather phenomena was compiled and standardized. By far the bulk of surviving sources are those of the Neo-Assyrian version of this standard series, entitled *Enūma Anu Enlil* (EAE), from the library of Assurbanipal at Nineveh (Tell Kuyunjik, Nebi Yunus) (seventh century BCE). The title represents the first three words, "When Anu and Enlil," of the opening of the text, which contains a short mythological account of the gods Anu, Enlil, and Ea having created the universe. Earlier versions of *Enūma Anu Enlil* from Middle Babylonian and Middle Assyrian (circa 1100 BCE) sources with parallels in Hittite sources (Hittite and Akkadian texts from Boğazköy [ancient Khattusha], normally dated even earlier, around the thirteenth century) serve to outline the literary development of the series.

In its standard form, as we know it from the library at Nineveh, *Enūma Anu Enlil* numbered some seventy tablets organized in the following way: the first section (EAE 1–22) contains omens based on the appearance of the moon-god, Sin, and includes such phenomena as lunar visibility, eclipses, and conjunctions with planets and fixed stars; the second section (EAE 23–36) refers

to the phenomena of the sun-god, Shamash, such as coronas, parhelia (bright spots on a solar halo), and eclipses; the third section (EAE 37–49/50) contains meteorological phenomena of the storm-god, Adad, such as lightning, thunder, rainbows, cloud formations, and winds; and the fourth section (EAE 50/51–70) contains planetary omens such as first and last visibilities, stations, and achronycal risings (last visible rising in the evening just after sunset), as well as omens for fixed-star phases.

Omens are formulated thus: If x occurs (in the sky), then y will occur (on earth), as illustrated by “If the Pleiades and Ursa Major stand together: rains and flood will come.” The predicted events concern the fate of the country or the king of the land as its representative. Personal astrology had not yet made its appearance. Celestial divination seems to have had its most widespread use in the period of the Sargonid kings (roughly between 700 and 600 BCE), at which time it shared its preferred status with extispicy, or divination based on the organs of sacrificed animals. From the Sargonid period are preserved astrological reports by scholars in various Assyrian and Babylonian cities. The Neo-Assyrian reports contain some actual observations of celestial phenomena and omens of relevance excerpted from *Enūma Anu Enlil*. The phenomena reported naturally reflect the same concerns found in the corresponding omens. The reports on lunar eclipses, for example, record in unsystematic fashion only phenomena belonging to the *Enūma Anu Enlil* eclipse omen repertoire: the month, day, watch of night, lunar quadrant in which eclipse shadow enters and direction of clearing, and sometimes planets visible during the eclipse.

The ostensible purpose of these reports was to inform the king of propitious times for certain activities, particularly those of a cultic or military nature. And it becomes especially clear in this material that celestial divination was practiced together with apotropaic magic as a means of protecting the king against ill portents. The most elaborate example of the application of apotropaism is the substitute king ritual, which was sometimes necessitated by the occurrence of a lunar eclipse (an account of this ritual can be found in “Esarhaddon, King of Assyria” in Part 5, Vol. II).

Early Babylonian Astronomy

Astronomy during the period before 500 BCE is represented by a number of texts preserved by those specialized scribes who used them as reference works. The character of this early astronomy is schematic and descriptive. The early computational schemes focus on lunar visibility throughout the month and on variation of length of daylight throughout the year. In addition, a more comprehensive work, entitled MUL.APIN (“Plow Star”), as well as several isolated texts covering subjects such as planetary observations, is extant.

Early astronomical texts do not constitute a corpus to quite the degree that the astronomical archives from Seleucid Babylon and Uruk (modern Warka) do. In the case of the late lunar ephemerides (computed tables of astronomical data) of system A, for example, every extant lunar system A tablet connects mathematically with every other tablet, implying further that every system A lunar text may now be dated. (System A refers to a class of mathematical astronomical texts coming mostly from Babylon, and which are classified according to their computational methodology, specifically, the method of computing on the basis of step functions.) But while the few early texts seem rather diverse in content and presentation, they nevertheless attest to a shared tradition, not only among themselves but also with the celestial omen series *Enūma Anu Enlil*. Three texts warrant discussion here because they characterize the interests of Babylonian astronomy before about 500 BCE, as well as the level of penetration into astronomical phenomena attained in this period. They are *Enūma Anu Enlil* tablet 14, the “Three Stars Each,” (or “Astrolabe”), and MUL.APIN.

Enūma Anu Enlil Tablet 14 The first arithmetical scheme for the calculation of an astronomical phenomenon, found in tablet 14 of the *Enūma Anu Enlil*, is concerned with the duration of lunar visibility throughout a thirty-day equinoctial month. But since the length of night changes from month to month, a second arithmetical function, based on the standard Old Babylonian parameter for the ratio of longest to shortest day of the year (2 : 1), was introduced so that the duration of lunar visibility can be calculated not

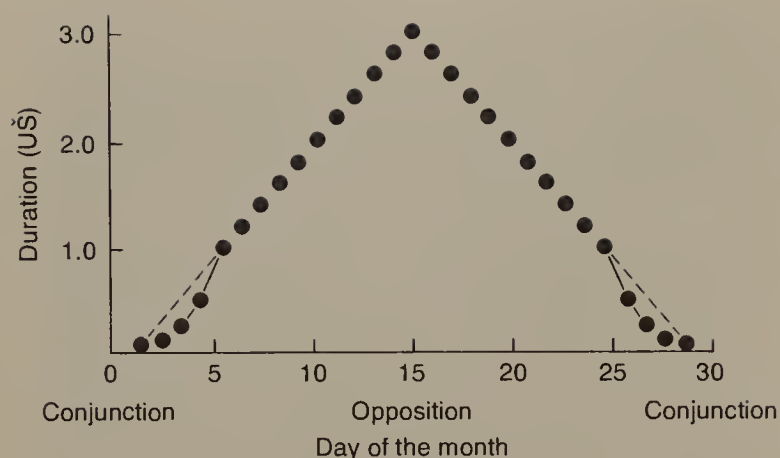


Fig. 1. Diagram of the Babylonian theory of lunar visibility during the month. COURTESY OF FRANCESCA ROCHBERG

just for a particular day of the month but for any date of the year.

With the exception of the values for lunar visibility near the beginning and end of the month, the scheme is linear (fig. 1). When the graph is extended to show lunar visibility over consecutive months, it generates a “zigzag” function. Numerical values are tabulated over a thirty-day month, and for most of the period the value for the duration of visibility varies by constant increments or decrements of 12 units of UŠ, or time degrees (a total of forty-eight minutes in equinoctial months), from a minimum of 0 on day 0 (= day 30) to the maximum on the fifteenth day, when the moon is in opposition to the sun. The value the Babylonians assigned to the length of night on the day of lunar opposition is 3, interpreted as 3,0 or 180 time degrees in the base-60 mathematical system. This figure is in agreement with the length of night at equinox (twelve hours) according to the scheme for duration of night. The function represents the waxing and waning of the moon by assuming that the moon is invisible at conjunction when the moon rises with the sun (day 30), visible the entire night at opposition when it rises at sunset and sets at sunrise (day 15), and in between steadily increases or decreases its duration of visibility after sunset at the rate of one-fifteenth of the night (which is $12^{\text{UŠ}}$ for the equinoctial months). Near the beginning and end of the month, the values go in a geometric progression (represented by curves where the duration is close to 0), doubling each day between day 1 and day 4

and halving from day 26 to day 29. This modification must have been an attempt to reflect numerically the difference between the actual (observational) duration of visibility of the very thin lunar crescent near conjunction and the theoretical interval from sunset to moonset or moonrise to sunrise that would result from the continuation of the scheme in a linear fashion (represented by the dotted line).

The numerical schemes of EAE tablet 14 recognize that lunar visibility is affected not only by the variable elongation of the moon from the sun but also by the variable length of night throughout the year. Another section of the text combines these two components to compute the lunar visibility on any date. In this last scheme, the daily retardation of the appearance of the moon is still computed by a factor of one-fifteenth of the night, with the difference that the value for one-fifteenth of the night is determined on the basis of the computed length of night for a specific date, not just at equinox. Here a simple scheme for the variation in length of day and night throughout the year is combined with the lunar-visibility scheme established in the first section of the text. This combined scheme thus forms another “zigzag” function with a daily difference of 160 seconds ($0;2,40^{\circ}$), which is simply the monthly difference of 80 minutes ($1;20^{\circ}$) divided by 30, with values ranging between 8 and 16 hours.

The numbers of the combined function represent the daily differences in the moon’s visibility at night over the course of the year, reflected in the increasing visibility of the moon (*tāmartu ša Sin*) in the first half of the month and the increasing length of time between sunset and moonrise (*niphlu ša Sin*) in the second half. The numerical values of this function are not analogous to the values of lunar visibility for months VI and XII (the equinoctial months) in the first section of tablet 14. They are differences in the increase or decrease of lunar visibility for all months and from whose values a length of lunar visibility for a particular date can be computed.

The significance of tablet 14 for the history of astronomy lies in its status as the earliest evidence for the application of linear methods, which, much later and in a more sophisticated form, characterized a large part of Hellenistic astronomy.

In the fully developed Babylonian lunar the-

ory, which developed over a span of nearly 1,200 years, the visibility of the moon is computed in a way, if compared with *EAE* 14, that takes into account many more variables that affect the duration of lunar visibility. Foremost among the differences from *EAE* 14 was the use of a true lunar calendar as a foundation, in place of the schematic calendar. In a lunar calendar, first visibility, which defines the first day of a month, is subject to the effects of variable lunar elongation (ten to fourteen degrees per day), itself a result of variable lunar and solar velocity, variable inclination of ecliptic and horizon (for Babylon between thirty and eighty degrees), and variation in lunar latitude—all of which are independent effects. (The ecliptic traces the annual path of the sun relative to the fixed stars.)

The treatment of the seasonal variation in length of day and night was also made on a new basis, that is, no longer on the basis of the schematic calendar but on the position of the sun in the ecliptic. The late texts generate daylight lengths corresponding to the moment when the sun is in the tenth degree of a zodiacal sign. To obtain daylight lengths for any solar longitude, and hence any date, one applied linear interpolation. The data underlying such a scheme were still known to later Greco-Roman antiquity.

“*Three Stars Each*” or “*Astrolabe*” Arithmetical or linear methods found in the treatment of the variation in length of daylight throughout the year are also applied in a text known in antiquity as “*Three Stars Each*.” Its main content is a fixed-star calendar in which months of heliacal risings are given for three fixed stars in each of the twelve months in a schematic year. The stars are further assigned to three paths in the sky, named for the three great gods Anu, Enlil, and Ea. The paths were defined with respect to the eastern horizon and represent areas of the sky in which one sees certain fixed stars rise in seasonal regularity (one of the chief differences between them and the planets).

The attempt to place the stars in the sky and to describe their cyclical return to their place accounts for the modern title “*Astrolabe*.”

Table 1 presents the numerical data from “*Astrolabe*.” The arrangement of this text was either circular or in columns in which the same data were tabulated vertically from month I to month XII. The table arranges the data vertically, enter-

TABLE 1
Daylight Scheme in *Astrolabe* Text

Month	Length of Daylight (in Minas)
I	3,20
II	3,40
III	4
IV	3,40
V	3,20
VI	3
VII	2,40
VIII	2,20
IX	2
X	2,20
XI	2,40
XII	3

ing in two columns the numerical value from the outermost ring in the circular astrolabe associated with each month. The numbers organize themselves around a mean value 3, and have a maximum value $M = 4$ and a minimum $m = 2$. The fact that the M falls in month III, the m in month IX, and the two mean values 3 occur opposite one another in months XII and VI immediately suggests the four cardinal points of the year.

An interpretation of the maximum value in month III as summer solstice, the minimum in month IX as winter solstice, and the two mean values as the equinoxes makes good sense if we see the numbers as representations of variable daylight length throughout the year. The text then presents an arithmetical model for the variation in daylight expressed by means of the numbers associated with the twelve thirty-day months of the schematic year.

MUL.APIN (2.1. 9–18) confirms this interpretation, giving the same numerical data for lengths of day and night at the cardinal points of the year, and explicitly states, for example, after the data for summer solstice, “The sun which rose towards the north . . . turns and keeps moving down towards the south at a rate of 40 NINDA per day. The days become shorter, the nights longer” (2.1. 11–13; Hunger and Pingree, pp. 72–73). We see in this statement the relationship between the changing length of day and night,

on the one hand, and the changing direction of sunrise with respect to due east, on the other.

The function of "Astrolabe," moreover, is periodic, its period being a consequence of the constant difference and the amplitude ($\Delta = M - m$) of the graph. The period is of length 12, which is to say it returns to identical values in twelve steps, in this case months. Clearly, though, the ratio of longest to shortest day ($M : m = 2 : 1$) given in the scheme is inappropriate to Babylon, which has a latitude of 32.5 degrees north. (The ratio two : one describes the situation for a geographical latitude of about 48.5 degrees.) To be practically useful, Babylon requires a ratio of approximately three : two, which appears in the later daylight schemes of Hellenistic Babylonian texts. Of course, the concept of geographical latitude was not yet known; instead, for the definition of a locality, the ratio of longest to shortest daylight was commonly used. Because this practice of defining a geographical locality by the ratio of longest to shortest day originated in Babylonia, the Babylonian value three : two for longest to shortest day became canonized in Hellenistic astronomy as the definition of the geographical zone or "clima" for Babylon.

While the solar anomaly and the resulting inequality of the seasons were not recognized in the early linear schemes, which treated variation of daylight as a function of the schematic calendar, the later astronomical theories did take account of the fact that length of daylight is tied to the position of the sun in the ecliptic. In fact, far from an understanding of daylight variation as a consequence of the solar progress in longitude, the early schemes follow from the schematic year and the observation of the changing position of the sun on the eastern horizon at rising throughout the year. The quotation from MUL.APIN (see above), describing the north-to-south progress of the sun, makes this clear. This statement refers not to progress of the sun along the ecliptic but, rather, to the changing position of its rising along the eastern horizon from north to south throughout the year. The movement back and forth with respect to due east, where the sun rises at the equinoxes, was defined by the Babylonians as the sun's movement north and south along the "cattle pen," the Babylonian term for the horizon, passing from the path of

Anu to Enlil, back to Anu and then south to Ea and finally back again to Anu, all in the course of one year.

MUL.APIN ("Plow Star") The astronomical compendium MUL.APIN catalogs and systematizes a wide variety of celestial phenomena. This two-tablet work represents a comprehensive summary of the astronomical knowledge of the period about the seventh century BCE. Its first tablet begins by listing the fixed stars assigned to the three "paths," first the thirty-three stars of Enlil, then the twenty-three stars of Anu, and finally the fifteen stars of Ea. Dates of heliacal rising of thirty-six fixed stars or constellations are given, twenty-four of which overlap with the thirty-six fixed stars of the "Astrolabe." Simultaneous risings and settings of stars are listed, followed by the intervals in days between first visibility dates of some stars. Reference is made to the daily retardation of appearance of the stars as "The stars enter into the night in the morning 1° [4 min.] each day. The stars come out into the day in the evening 1° each day." A list of fourteen *ziqpu* (meridian-crossing) stars follows, as well as simultaneous risings of stars with meridian crossings of *ziqpus*. The list of seventeen (ecliptical) stars in the path of the moon concludes tablet I of MUL.APIN.

Tablet II continues with the path of sun, moon, and planets, the astronomical seasons, and lunisolar intercalation rules with the fixed star Sirius. Other calendars, such as a stellar calendar mentioning winds and a calendar of planets, are given. Appearances and disappearances of Venus, Jupiter, Mars, Saturn, and Mercury are added, together with the synodic periods of planets. Sections follow on winds, the solar year, various lunisolar intercalation rules, gnomon shadow lengths, length of watch, and length of daylight at cardinal points of the year. On the first and fifteenth days of the month throughout the year, the length of night and the values for the "setting of the moon" (the duration of time until moonset from the first to the fourteenth day) and "rising of the moon" (duration of time until moonrise from the fifteenth to the last day of the month) are given in accordance with EAE 14. Finally, a section of omens that concludes tablet II serves to remind us of the composite character of Babylonian science, which included

positive knowledge derived from systematic observation as well as the more subjective, interpretative practice of astrology.

The Babylonian Calendar

As in the ancient Mediterranean world in general, the Babylonian civil calendar, which regulated sacred and secular activities alike, was based on natural time intervals produced by the motion of the sun and the moon. The three basic intervals that structured the calendar were the solar year, the lunar month, and the solar day. This lunisolar calendar reckoned a year as the interval between successive returns of the seasons, usually beginning with spring. The month was defined as the interval between successive appearances of the moon in its cyclical phases. The beginning of the lunar cycle was defined as the moment when, following the period of invisibility due to nearness to the sun, the thin lunar crescent first appeared on the western horizon in the evening and remained visible for a short time after sunset. This was the definition of the month for most of the cultures of the ancient Near East and Mediterranean. Only the Egyptians (and later the Romans) did not conform, disregarding the irregular natural time indications in favor of regular arbitrary measures, such as the fixed 30-day month and the 365-day year (the interval that constitutes the true synodic month, which is the month reckoned from first visibility to the next such first visibility, varies in length from 29.26 to 29.80 days). Consequently, the lunation, or time from one conjunction of sun and moon to the next, is experienced as a period of either twenty-nine or thirty days' length. The day, in accordance with the use of lunations, was reckoned as the interval between successive sunsets.

Given the thoroughly astronomical character of the Babylonian calendar, the continuous seven-day cycle entirely dissociated from the period of a lunation, known as the week, and which is in use throughout much of the world today, was unknown in Mesopotamia. The week is traceable to the Bible and is thought to be a Hebraic innovation. The Jewish weekdays were counted, a tradition preserved in the Eastern Orthodox church. Planetary names for the days, based on an astrological week of Hellenistic invention, subsequently entered the western Euro-

pean calendar. Based on the geocentric order of celestial bodies (i.e., Saturn, Jupiter, Mars, sun, Venus, Mercury, moon), planets were assigned to rule the hours of the day. Saturn, therefore, ruled the first, eighth, fifteenth, and twenty-second hours of the first day. The twenty-third and twenty-fourth hours of the first day belonged to Jupiter and Mars, respectively, and so the sun was lord of the first hour of the second day. The seven days were named in accordance with the name of the planetary ruler of the first hour of the day; hence Sunday became the name of the day following Saturn's, or Saturday.

The Babylonian year began in the spring, with the month Nisannu (March/April in the Julian calendar), and the first of the year fell approximately around the vernal equinox, but actually varied widely. During the Neo-Babylonian period (between 626 and 536 BCE), the first of Nisannu could fall between March 11 and April 26. Even after the institution of the nineteen-year cycle, the new year could still vary within a twenty-seven-day range but averaged about fourteen days following vernal equinox.

Because the motion of sun and moon are not uniform with respect to one another, a lunisolar calendar, which by definition reckons months by the moon and years by the seasons, faces the problem of maintaining synchrony between the twelve lunar months and the solar year. The effect is that twelve lunations do not divide the solar year evenly, nor do solar days divide the lunar month into equal parts. Twelve lunar months of average 29.5 days' length total 354 days, which is about 11 days less than the average length of the solar year ($= 365.2492$, or 365.25 days). Because of the asynchrony, the months fall eleven days behind each year, and after three years, the sequence of months is more than one month out of step with the season or with the activity designated to occur in a particular month, such as the barley or date harvest, or sheep shearing. After only 32.5 years, a given month would pass through the entire cycle of seasons, unless something were done to compensate. Therefore, to ensure stability in the correspondence between specific months and times of the year, whether defined agriculturally, religiously, or fiscally, an intercalary thirteenth month was added to the year whenever necessary to maintain the proper "place" of a month

within the solar year. Either an extra sixth month or an extra twelfth month would normally be intercalated, but an intercalary first month (and at Mari [modern Tell Hariri] a second fifth month) is occasionally attested, albeit rarely in economic texts.

Intercalations were effected by royal decree. Documents from the reigns of Hammurabi (1792–1750), Nabonidus (555–539), Cyrus (538–530), and Cambyses (529–522), among others, attest to the procedure. The ad hoc intercalation of months represented by the royal letters was the standard procedure for controlling the calendar throughout the ancient Near East from approximately the third millennium until about the middle of the first (certainly until 526 BCE).

In Assyria, the calendar year had different characteristics. It has been reconstructed on the basis of second-millennium texts from the reign of Shamshi-Adad I (1813–1781), as well as from the Kanesh (ancient Kültepe) archives. In both, the new year began in the autumn. The fall new year was also established in the Ebla calendar of the third millennium BCE. Although no intercalary month is attested in the Old Assyrian calendar, the naming of the year eponym, by which solar years were identified, always occurred at the same time of year. In other words, the solar eponym year was coordinated with the lunar months except, apparently, for the situation reflected in texts from Kültepe Ib. In the Middle Assyrian lunar calendar of the fourteenth and thirteenth centuries BCE, a lack of intercalation resulted in the slipping of the seasons backward through the months.

This discrepancy changed when the Assyrians adopted the Babylonian calendar in the first millennium.

THE LATE PERIOD (CIRCA 600 BCE TO FIRST CENTURY CE)

A corpus of roughly fifteen hundred astronomical cuneiform texts is extant from the late period of Mesopotamian history (roughly between 600 BCE and the beginning of the Common Era). The latest dated document is from the year 75 CE. Within this mass of texts, two entirely different approaches to the study of celestial phenomena

may be identified. The distinction is so marked as to suggest the existence of two distinct branches of Babylonian astronomy. The two branches comprise (1) numerical table texts and their related procedure texts that are now termed “mathematical” astronomy, and (2) nontabular texts of various types, which are designated as “nonmathematical” astronomy. The terms “mathematical” and “nonmathematical” are not native Babylonian terms, for the scribes did not differentiate between general classes of texts in the same way we do. Indeed, there was no Akkadian word for astronomy. There was, however, a clearly defined Babylonian nomenclature for the various text types, and each had a special descriptive name as well as a unique and highly standardized form. We owe our modern classification (mathematical and nonmathematical) to Abraham Sachs, who cataloged nearly the entire corpus in 1955 and whose lifework was the study especially of the nonmathematical astronomical texts. In addition to these new forms of astronomy, a break in the tradition of celestial divination can be recognized in horoscopic astrology, which relied upon mathematical prediction of planetary and lunar positions instead of observation.

Horoscopy

Two new types of astrological texts appear in the Achaemenid period. Both are results of the incorporation of two important elements also new to this period, the zodiac and the derivation of personal predictions from celestial phenomena at the time of birth. Both elements were to become essential for the Greek form of personal astrology known as genethliology. But long before Greek astrology is attested, nativity omens and horoscopes, which consider the positions of the planets at the time of a birth, enter the scribal repertoire alongside the traditional corpus of *Enūma Anu Enlil*.

The zodiac represents an imaginary band extending about six degrees on either side of the ecliptic (the apparent path of the sun with respect to the fixed stars in one year), and is divided into twelve signs of thirty degrees each. The resulting division of the ecliptic into 360 degrees provided a standard reference system for use in computational astronomy. The use of

the zodiac for this purely astronomical purpose may be indicated in the fifth century BCE, as suggested not only by astronomical diaries (text Nos. -453, -440, and -418 of Sachs-Hunger, *Diaries*), but also in astronomical texts that compute phenomena occurring during the Achaemenid period. One such text gives zodiacal longitudes of conjunctions of the sun and moon for the year 475 BCE, although the tablet itself was written much later. Fifth-century evidence for the existence of the zodiac also comes from two horoscopes, in which positions of the planets are cited with respect to zodiacal signs.

The purpose of the Babylonian horoscope document was primarily to record positions of the seven known planets on the date of a birth. The astronomical data were presented in a way that followed certain conventions, as in the following example:

By the command of (the gods) Bēl and Bēltiya, may it go well. Year 236 (Seleucid Era), Arsaces was king. Abu 1, the 25th day, in the 12th hour, the child was born. In his hour (of birth), the moon was in Leo, sun in Virgo, Jupiter [and Mars] in Gemini, Venus in Libra, [Mercury in] Leo, Saturn in Scorpius. That month, [moonset after sunrise was on the 13th]; . . . ; on the 21st, Mercury's [first appearance] in the east [in Leo], last visibility of the moon before sunrise was on the 26th. [That year, month] Simanu, summer solstice was the 16th of Simanu. On the 29th [day (of Simanu)] a solar eclipse [i]n Cancer which passed by. Du'ūzu, night of the 13th, a lunar eclipse in Aquarius made one finger (magnitude). On the 25th at sunrise (moon) was in 8° Leo. [. . .]

The use of zodiacal coordinates for planetary, lunar, and solar positions is positive indication that those positions were derived rather than observed. Indeed, the zodiacal longitudes in the horoscopes were derived from astronomical data compiled in the other astronomical texts, the non-mathematical and possibly also, in some cases, the mathematical ephemerides. In the case of the horoscope quoted above, only Venus and Saturn were above the horizon at the time of birth, and both were quite close to the horizon. Still, positions of all five planets, as well as those of the sun and moon, and additional lunar and solar data, such as the dates of solstice and of eclipses, could be derived by computation. The

fact that the horoscopes reflect computed rather than observed data and that the data are generally extracted from a variety of astronomical texts becomes an important factor for understanding the relationship between astrology and the mathematical and nonmathematical forms of late Babylonian astronomy.

The absence of personal predictions, with a few exceptions, characterizes the horoscope corpus as a whole. As a result, our knowledge of the astrological meaning of the assembled planetary positions is very poor. We assume that the purpose of producing a record of celestial phenomena at the time of birth was to obtain a prediction about an individual's future. This objective is also associated with nativity omens that relate the birth of a child with some celestial sign, such as "If a child is born and Jupiter comes forth" or "If a child is born in the middle of Aries." The conditional clauses (protases) of the late Babylonian nativity omens have much older prototypes in birth omens of the sort that predicted something for a child born on a particular day, without consideration of the heavens. Another similarity to the related nativity omens is the generality of the horoscope. Few horoscopes name the child on whose birth date the heavens are considered. Whereas earlier, in *Enūma Anu Enlil*, only the king and the state were of concern, the new horoscopes opened astrological prediction to individuals. But the horoscopes still do not provide much insight into the actual individuals—names, ancestry, or social standing—for whose birth dates the astronomical data are given. Whether these texts signal some change in the relation between the individual and the cosmos in late Babylonian culture is difficult to ascertain because of the laconic nature of the sources.

Mathematical Astronomy

The bulk of the nearly three hundred mathematical astronomical texts are lunar or planetary tables, which are supplemented by a smaller group of procedure texts outlining the steps necessary to generate such tables. These tables, or ephemerides, contain parallel columns of numbers that represent dates or positions of synodic lunar and planetary phenomena. Some columns do not themselves represent astronomical phe-

nomena but, rather, certain mathematical entities relating to the computation of the phenomena. Phenomena of interest are all periodic, and can further be defined as synodic in nature, that is, belonging to the relation between the planet (or moon) and the sun. Examples of such phenomena are new moons, eclipses, first visibilities, and stationary points. The consecutive entries in a given column can correspond to dates (usually months and “days,” using a special unit that is the equivalent of one-thirtieth of a lunar month) or degrees in the zodiac.

A Babylonian lunar table, then, deals with the determination of conjunctions and oppositions of sun and moon, first and last visibilities, and eclipses. Planetary tables for the five naked-eye planets—Saturn, Jupiter, Mars, Venus, and Mercury—generate the dates and positions in the ecliptic of their synodic appearances. For the outer planets—Saturn, Jupiter, and Mars—these are first visibilities, first stationary points, oppositions, second stationary points, and last visibilities. For the inner planets, Venus and Mercury, the tables focus on first visibility, stationary point, and last visibility in the east as a morning star, and first visibility, stationary point, and last visibility in the west as an evening star.

Although no general physical theory, in our modern sense, of planetary and lunar motion was developed, the recognition of certain period relations governing the occurrence of particular physical phenomena and the mathematical models founded upon those period relations can be regarded as a form of abstract mathematical “theory making” that generated consistent results. And whereas quantitative accuracy does not seem to have been an important goal, the Babylonian mathematical schemes produced impressive results even from this point of view. This in turn can be accounted for by the excellence of the underlying period relations. These period relations are of the sort “ x no. of phenomena = y no. of revolutions of the ecliptic.” A specific example is that 391 phenomena of Jupiter (meaning any specified appearance of the planet, such as at first station, or last visibility) will occur in 36 traversals of 360 degrees of the ecliptic by the planet.

Two classifications of mathematical astronomical texts emerge, now designated systems A and B. They are distinguished by their methods of

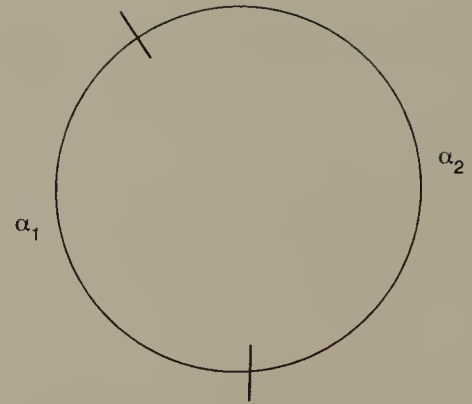


Fig. 2. Schematic diagram showing how the ecliptic can be divided into a series of arcs (α_1 and α_2).

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computing ecliptical longitudes: system A by means of a piecewise constant step function whose $\Delta\lambda$'s (synodic arcs) are a precise function of longitude, system B by a zigzag function whose $\Delta\lambda$'s are only an approximate function of longitude. Asger Aaboe has shown further that system A's model was closely tied to the ecliptic, while system B's was not. In system A, the progress of a synodic phenomenon from one occurrence to the next, and so on, has been schematized as a function of longitude in which the ecliptic (360 degrees of longitude) is divided into arcs or zones (see fig. 2, where each α represents an arc as well as its length).

Using a modern analogy to describe a system A longitude table as representing positions of a body one time unit apart, Aaboe was able to explain the scheme in such a way as to reproduce the Babylonian rules for computing such tables as expressed in procedure texts. According to his analogy, a planet in some synodic situation proceeds through the various ecliptical arcs (the α 's) at different velocities, or degrees per time unit (an anachronistic interpretation of the functional values ω associated with a given arc α). The body returns to the starting point of longitude, having completed a certain number of synodic arcs, in an appropriate astronomical period. To find how long it takes the body to traverse the ecliptic once—in other words, to find the period—the synodic arcs and their associated rates of progress for the body can then be expressed as the sum

$$P = \frac{\alpha_1}{\omega_1} + \frac{\alpha_2}{\omega_2} + \dots + \frac{\alpha_n}{\omega_n},$$

where n denotes the number of arcs that compose the ecliptic. This sum may also be expressed as an irreducible fraction

$$P = \frac{\Pi}{Z},$$

which means the period is a time unit defined in terms of the number of occurrences of a particular synodic phenomenon in one revolution of the ecliptic.

To take a specific example, a standard system A Jupiter table divides the ecliptic into two zones: α_1 is 155 degrees in length and α_2 is 205 degrees (satisfying the requirement that $\alpha_1 + \alpha_2 = 360^\circ$). With these arcs are associated two velocities (ω_1 and ω_2). The time unit between line-by-line entries in the text is one synodic phenomenon. Between two given synodic occurrences, however, the body assumes a different rate of progress depending on whether it is in the faster or the slower of the two ecliptical arcs. The system A model assumes that Jupiter goes at the rate of thirty degrees per time unit on the slow arc and thirty-six degrees per time unit on the fast. Using the above equation, one can then compute the period in which the planet will go once around the ecliptic:

$$P = \frac{155}{30} + \frac{205}{36} = \frac{391}{36} = 10;51,40.$$

But this says that once around the ecliptic takes ten plus a fraction occurrences of the synodic phenomenon, and clearly, a fractional number of synodic phenomena is not a useful measure. It is more comprehensible to say that a significant astronomical period represents the length of time it takes the phenomenon to occur as many times as necessary to bring the body back to an initial point of longitude, and that in the course of this time, the body will have completed a certain integer number of revolutions of the ecliptic. In Jupiter's case, $P = \frac{391}{36}$,

which means 391 synodic occurrences of Jupiter correspond to 36 revolutions of the ecliptic. Again, the period is defined in terms of occur-

rences of synodic phenomena. To translate that period in terms of total time in years, we must only note that for each synodic cycle of the planet, the sun travels once around the ecliptic *plus* the increase in longitude made by the planet from one synodic appearance to the next one of the same kind. Thus, 391 synodic phenomena of Jupiter, in terms of the travel of the sun, is 391 times around 360 degrees plus 36 more revolutions. And since one revolution of the sun around the 360 degrees of the ecliptic is the definition of one year, it takes $391 + 36 = 427$ years to see Jupiter again at the same position of longitude.

System B, as interpreted by Aaboe, is not tied to the ecliptic. The method of computing longitudes is not, then, as in system A, a function of longitude ($\Delta\lambda = f(\lambda)$) but, rather, a function of the number of a synodic occurrence in the sequence of such occurrences found as line-by-line entries in the table (i.e., $\Delta\lambda = f(n)$). The values of the function increase by a constant (d) for each line entry until a maximum is reached. When such a maximum value is reached, the next value of the function is derived by reflection down the graph, after which point the function decreases each time by the constant amount (d) until the minimum value is reached. The resulting graph of $\Delta\lambda = f(n)$ is of a zigzagging line, bounded by a maximum (M) and a minimum (m) value. Further, the zigzag function describes something of a periodic nature, so that the distance between returns to some given position will be a value that is astronomically significant. The characteristic parameters of the zigzag function are expressed as the difference (d), the amplitude $\Delta = M - m$, the mean value of the function $\mu = \frac{M + m}{2}$, and the period (P) = $\frac{2\Delta}{d}$ (see fig. 3).

A system B table for Jupiter computes longitude with the parameters $M = 38;2^\circ$, $m = 28;15,30^\circ$, and $d = 1;48^\circ$, from which we derive the period,

$$P = \frac{2(38;2 - 28;15,30)}{1;48} = 10;51,40, \text{ or } \frac{391}{36},$$

which is precisely the period found from the system A scheme for Jupiter. But whereas in system A's ecliptical model, the period meant

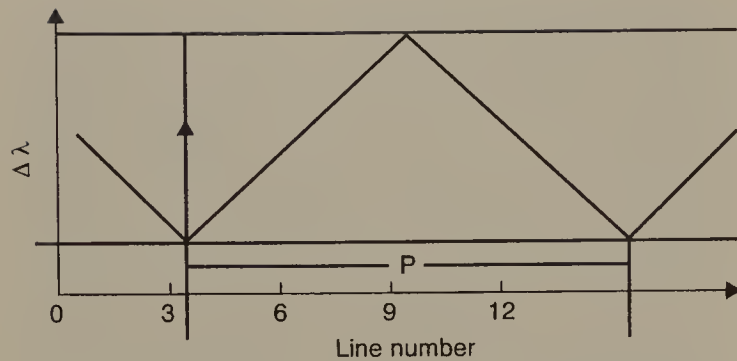


Fig. 3. Graph of the system B longitude function.
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that 391 applications of the synodic arc correspond to 36 times around the ecliptic (hence to a return in longitude), in system B, the period relation states only that 391 lines of the text will bring a return to a value for $\Delta\lambda$ longitude after 36 waves of the zigzag function. System B's period, therefore, refers to line numbers between same values, and as a result, system B's model will not bring a precise return to a particular longitude. However, the choice of maximum (M) and minimum (m) has to do with the mean value of the function. In the case of system B, Jupiter,

$$\frac{38;2 + 28;15,30}{2} = \frac{1,6;17,30}{2} = 33;8,45.$$

The value of the arithmetical mean for the system B linear zigzag scheme is quite close to the value of the ideal mean synodic arc for Jupiter found in system A, which is

$$\overline{\Delta\lambda} = \frac{36 \times 360^\circ}{391} = 33;8,44,48^\circ.$$

The astronomical table texts are the results of such computational methods applied to specific phenomena. Whether the tables were intended for further use, as we might now consult a nautical almanac to find out when to see the next lunar eclipse, it is very difficult to know. When horoscope texts give positions of planets in degrees and fractions of degrees of zodiacal signs, the application of the methods seen in the ephemerides—or, indeed, the ephemerides themselves—would seem to be the likely source

for such data. Concrete proof that this is the case, however, is lacking.

Nonmathematical Astronomy

The nonmathematical astronomical texts are preserved in far greater number than are the ephemerides (in a ratio of about four to one), and are comprised of at least five separate genres. Our modern terminology denotes these as almanacs, normal-star almanacs, goal-year texts, diaries, and their excerpts. The difference between mathematical and nonmathematical texts, however, is not merely formal—that is, whether the text was tabular or not—but a matter of fundamental methodology. The tabular form of the ephemerides is a consequence of their underlying mathematical structure, which is not found in the diaries or in any of the other nonmathematical genres. At the same time, it should also be clear that nonmathematical is not synonymous with observational, so the distinction between mathematical and nonmathematical cannot be simply a way of distinguishing computation and prediction from observation.

Virtually all the nonmathematical text genres contain some predictions of phenomena—predictions, however, that were not obtained by the methods of the mathematical tables. The only nonmathematical genre that is noted for its recording of astronomical observations is the “diaries,” and even these regularly include predicted data. Sachs identified diaries as the ultimate observational source for several of the other nonmathematical astronomical text categories. While the relationship of the diaries to the mathematical astronomy is still not perfectly understood, at least some of the observational material recorded in diaries must have provided a foundation for the development of mathematical astronomy, both Babylonian and ultimately Hellenistic Greek.

The earliest datable example of an astronomical diary is from the seventh century. The text dates to the year 652 BCE. It is now generally accepted that astronomical diary writing, hence the activity of observational astronomy, began a full century earlier, in the middle of the eighth century, during the reign of Nabû-nāṣir (747–734 BCE). This historical claim originally stemmed from Ptolemy's unique use of this reign as an

era, the Era Nabonassar (Nabû-nâšir), by which to reckon dates, and his supporting statement (*Almagest* 3,7) that astronomical records beginning in the reign of that king were available in his own time. Astronomical diaries from the eighth century are no longer extant, and only after about 400 BCE are they preserved in any great number. The archive of diaries was maintained by the Babylonian scribes, no doubt the “scribes of *Enūma Anu Enlil*,” until the mid first century BCE, and possibly even later. The most recent datable diary is from the year 47 BCE, when Babylonia had long since been incorporated into the Parthian empire.

The diaries compiled lunar, planetary, meteorological, economic, and occasionally political or otherwise newsworthy events (such as fires) night by night, for six (or seven) months of a Babylonian year. Of primary importance was the progress of the moon each month through the sidereal ecliptic. This daily progress was charted by means of distances between the moon and one of a series of reference stars that lie close to the ecliptic—indeed, all falling within a fairly narrow band of latitude between $+10^\circ$ and $-7;30^\circ$. Dates of lunar visibility intervals were also observed at the beginning, middle, and end of the synodic month. The interest here was in the appearance of the moon near conjunction and opposition.

These lunar visibility intervals, which could be either observed or predicted, are worth defining here. At the beginning of the month there was the NA, the time between sunset and the setting of the first lunar crescent. Around mid-month there were four special intervals: ŠÚ was the time between moonset and sunrise when the moon set for the last time before sunrise, NA was the time between moonset and sunrise, ME was the time between sunset and moonrise, and CE₆ was the time between sunset and the rising of the moon, when the moon rose for the first time after sunset. Finally, at the end of the lunar month, the interval called KUR referred to the time between the rising of the lunar crescent and sunrise when the moon was visible for the last time that month.

Eclipses, both solar and lunar, were either observed or predicted. The proximity (conjunctions) of the moon and planets to the normal stars throughout the month were recorded as

observed. Synodic phenomena of the planets were also either observed or predicted. Other astronomical events of note would be included, such as meteors and comets, and a wide variety of cloud conditions and (bad) weather. The meteorological phenomena were not recorded only because they obscured or prevented the observation of lunar and planetary appearance, but as phenomena of interest in their own right as well. A definite relationship may be noted between all the phenomena recorded in astronomical diaries, including the atmospheric phenomena, and the celestial omens of the series *Enūma Anu Enlil*.

In general, the diaries may be described as a corpus of highly formalized, yet objective, essentially observational reports, compiled for a period of half a year, presumably from individual records that do not survive. These “preliminary reports” were not integrated into the same archive from which the extant diaries were obtained. The overall impression is therefore of a massive file of diverse yet related material, assembled to be used as a primary source of data, for what and to what end, we do not really know. We are therefore not yet in a position to define the goals of the nonmathematical astronomy.

When, however, the various genres are considered together, some insights in this direction emerge. One example will suffice here. The diaries clearly provided raw data for a variety of projects carried out by the astronomer-scribes. An example of this may be seen in the genre termed goal-year texts, which show how data compiled in diaries were manipulated by the scribes. Predictions of many astronomical phenomena were based on the actual appearance of phenomena recorded in diaries some number of years before the goal year according to the period known to govern the reappearance of the desired phenomenon. The periods on which goal-year texts are based are as follows: Jupiter, seventy-one years, and eighty-three years; Venus, eight years; Mercury, forty-six years; Saturn, fifty-nine years; Mars, seventy-nine years and forty-seven years; and the moon, eighteen years. This is clear both from the contents of the goal-year texts and from the colophon-titles given them by the scribes.

Thus, the designation “goal-year text” is meant to represent the Sumero-Akkadian

UD.1.KAM IGI.DU₈.A.MEŠ DIB.MEŠ *u* AN.MI.MES *ša ana MU x kunna* (“first day, synodic appearances, passings, and eclipses that have been established for year *x*”). The term “first day” corresponds to the lunar synodic phenomena; “appearances” (*tāmarātu*), to the planetary synodic appearances; “passings,” to conjunctions of planets with ecliptical normal stars; and eclipses are eclipses. These are the phenomena regularly compiled in the form of diaries. The goal-year texts enable us to see one of the ways in which diaries were utilized by the astronomers: as a means of nonmathematical prediction of phenomena. The view that the observational data of the diaries ultimately provided the source for the development of the purely mathematical astronomical models seems only reasonable but is quite difficult to demonstrate.

Whereas the diaries and goal-year texts fit together well as source and derivative, two other types of nonmathematical astronomical texts present data in quite a different manner. These are the almanacs and normal-star almanacs. An almanac presents in twelve (or thirteen) month sections the location of each planet in the zodiac through the year. The tablet is organized by the month, and the first line of each month section contains the zodiacal sign in which each planet is found on the first day of the month. Degrees within signs are never given. These positions are registered in the standard order of the planets found in goal-year texts and horoscopes: Jupiter, Venus, Mercury, Saturn, and Mars. Thereafter, the dates of predicted entries of the planets into the next sign are given (expressed by the verb *kašādu*, “to reach”). As Sachs pointed out, it is the boundaries between signs that would be most difficult to observe, and the crossing from one zodiacal sign to another is obviously an astrologically important event. In addition to predicting the zodiac positions of the planets month by month for one Babylonian year, the almanacs include dates of synodic phenomena in the appropriate order, the lunar phenomena NA and KUR, and the dates of equinoxes or solstices. Occasionally the heliacal appearances of Sirius also are predicted, as are eclipses. The chronological range for these documents, judging from the datable texts, is 262 BCE to 75 CE.

The normal-star almanacs have an organiza-

tion similar to that of the almanacs, but the content, rather than being predicted, is tied directly to observations given in the diaries. For each month section of a normal-star almanac, data are given for planetary synodic phenomena, normal-star conjunctions (how many cubits the planet passed in front of, behind, above, or below a normal star), and the dates of some of the lunar intervals between the rising and setting of moon and sun, as described above for the diaries.

The Fixed, Continuous Calendar: Intercalation and the Babylonian Nineteen-Year Cycle

A mathematical scheme producing a regular intercalary cycle was finally introduced into the Babylonian calendar during the Achaemenid period. Precisely when is a matter of some debate, but it would seem to be either shortly after 500 BCE or closer to 380 BCE. This cycle was based on the good correspondence between the number of days in 19 solar years and 235 lunar months. The nineteen-year cycle determined the intercalation of seven months every nineteen years ($19^{\text{yr}} \times 12^{\text{m}} + 7^{\text{m}} = 235^{\text{m}}$), with the intercalary months spaced at conveniently fixed intervals: in years 1, 3, 6, 9, 11, 14, and 17. All years with intercalary months except year 1 had an extra twelfth month (*Addāru arkû*). The first year in the cycle had an extra sixth month (*Ulûlu arkû*). The nineteen-year cycle of intercalation, begun under the Achaemenids, remained standard for the succeeding Seleucid and Arsacid periods, to the end of the cuneiform tradition.

Before the articulation of a solar theory in the mathematical astronomy of the late Babylonian period, no value for the length of a year in days can be cited. As a consequence of the lunisolar character of the calendar, the length of the Babylonian civil year varied, depending on whether an extra lunar month was intercalated. The unit “year” was so defined for all periods of Mesopotamian history. With the development of mathematical astronomy and the derivation of number periods for cyclical phenomena (such as the return of the sun to a particular fixed star), diverse values for the length of the year are seen to underlie various computations. For example, Seleucid astronomical texts from Uruk listing computed solar longitudes on consecutive dates (*Astro-*

nomical Cuneiform Texts 185, 186, 187) use $0;59,9^{o/day}$ as the value for the mean solar progress. This produces a year of about $6,5;10,23^d$. Such a year length ($6,5;10^d$) has been identified in a procedure text from Babylon. ACT 210, 3:11–12, defines the year in terms of an eighteen-year solar cycle: [1,4]9,34;25,27,18 UD.MEŠ šá 18 MU šá Šamaš [ana KI-š]ú GUR ina 18 BAL.MEŠ (“[1,4]9,34;25,27,18 days of 18 years of the sun, returning [to] its [longitude] in 18 rotations”), meaning returns of the sun to the same fixed star. This value produces a year length of $6,5;14,44,51^d$. These and other year lengths (e.g., $6,5;15,36$) are found as the periods of functions in Babylonian astronomy. Otto Neugebauer has emphasized that all the “years” underlying Babylonian astronomical computations refer to the sidereal year, since no distinction was yet made among sidereal, tropical, and anomalistic years. Such distinctions presuppose recognition of precession, which has been conclusively shown to lie outside the knowledge of Babylonian astronomy.

The Goals of Babylonian Astronomy

Goals and motivations of science were never articulated by the Babylonian scribes, and so our understanding of this cultural aspect of Babylonian science depends on the study of the interrelations between all the known astronomical and astrological texts. Babylonian astronomers clearly were interested in predicting celestial phenomena. Goal-year texts attest to this, as does the mathematical astronomy. Why prediction was so important seems obvious from a modern scientific viewpoint: predicting the actual (observable) behavior of some heavenly phenomenon by means of a theoretical scheme of its behavior affirms our understanding of the phenomenon and therefore our “control” of it. One may not expect to find the same sensibility in antiquity. On the other hand, it may be inaccurate to say that the methods of astronomical prediction in Babylonian texts were developed only to serve some other purpose—that is, that the whole enterprise, nonmathematical and mathematical Babylonian astronomy, existed solely for the sake of some practical application. Similarly inaccurate is the historical model that sees the accomplishments of pre-Greek science not only as merely practical science but also as a more

primitive stage in the history of scientific thought, which necessarily precedes the more advanced stage in which knowledge or theory exists for its own sake. In considering the multiple goals of Babylonian astronomy, it seems certain that purely theoretical constructs, which exist in the mathematical astronomy alone, were goals in and of themselves.

Another important motivation persisted: celestial divination, or astrology, which is reflected more directly in the nonmathematical astronomy but may also be in the background of the mathematical astronomy. The canonical omen series *Enūma Anu Enlil* retained its currency for the entire period in which diaries (and mathematical ephemerides) were written—in fact, until quite late in the Seleucid era, judging from numerous Seleucid exemplars of the standard series, unchanged from the version at Nineveh during the seventh century—indeed, not substantially changed since the Old Babylonian period. No textual evidence actually shows that the diary writers consulted the omens. Nevertheless, one can reasonably surmise that *Enūma Anu Enlil* would have been consulted for the interpretation of phenomena observed and recorded in diary form. Extensive colophons containing the names, titles, and ancestry of the scribes who wrote the mathematical ephemerides are frequently preserved. According to these colophons, the astronomers belonged to the class of *ṭupšar Enūma Anu Enlil* “scribes of (the astrological omen series) *Enūma Anu Enlil*,” but they seem rarely to have put their names on the diaries. The above evidence has also made it fairly convincing that this scribal group included those who wrote tablets of astronomical or astrological content.

Two administrative documents from Arsacid Babylon tell us that the elite scholars employed by the “assembly of Esagila” (Marduk’s temple in Babylon) computed astronomical tables and kept nightly systematic watch for phenomena recorded in diaries. It can be no coincidence that the visible appearances of the heavenly bodies that formed the basis for celestial omens were also the central focus of Babylonian astronomy, both mathematical and nonmathematical. At the same time, the existence of the nonmathematical astronomical texts was not justified solely by their application to astrology.

Taken as a whole, from the earliest to the latest texts, Babylonian astronomy represents a complex intellectual enterprise, with a written tradition spanning at least fifteen centuries. It was characterized by diverse methods, multiple lines of development, and a variety of goals, only a few of which can at present be fully reconstructed.

BIBLIOGRAPHY

The following works on Babylonian and ancient astronomy in general are authoritative: OTTO NEUGEBAUER, *The Exact Sciences in Antiquity* (1957), and *A History of Ancient Mathematical Astronomy*, 3 vols. (1975). On a more popular level is BARTEL L. VAN DER WAERDEN, *Science Awakening*, vol. 2, *The Birth of Astronomy* (1974). *Astrologie en Mésopotamie* is a helpful issue of *Les Dossiers d'archéologie* (191 [1994]), with many illustrated articles.

Discussions of cuneiform texts of astronomical and astrological content may be found in OTTO NEUGEBAUER, *Astronomical Cuneiform Texts* (London, 1955); SIMO PARPOLA, comp., *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal*, 2 vols. (1970–1982); ERICA REINER and DAVID PINGREE, *Enūma Anu Enlil Tablet 63, the Venus Tablet of Am-*

mišaduqa (1975) and *Enūma Anu Enlil Tablets 50–51* (1981); FRANCESCA ROCHBERG-HALTON, *Aspects of Babylonian Celestial Divination: The Lunar Eclipse Tablets of Enuma Anu Enlil* (1988); HERMANN HUNGER and DAVID PINGREE, *MUL.APIN: An Astronomical Compendium in Cuneiform* (1989); and ABRAHAM SACHS, *Astronomical Diaries and Related Texts from Babylonia*, 2 vols., edited by HERMANN HUNGER (1988–1989).

A selection of Babylonian horoscopes may be found in ABRAHAM SACHS, "Babylonian Horoscopes," *Journal of Cuneiform Studies* 6 (1952); and FRANCESCA ROCHBERG-HALTON, "Babylonian Horoscopes and Their Sources," *Orientalia* 58 (1989).

Key studies of the Babylonian mathematical astronomy are ASGER AABOE, "On Period Relations in Babylonian Astronomy," *Centaurus* 10 (1964), and "Observation and Theory in Babylonian Astronomy," *Centaurus* 24 (1980); ASGER AABOE and ABRAHAM SACHS, "Some Dateless Computed Lists of Longitudes of Characteristic Planetary Phenomena from the Late Babylonian Period," *Journal of Cuneiform Studies* 20 (1966); ASGER AABOE and N. T. HAMILTON, "Contributions to the Study of Babylonian Lunar Theory," *Det Koneglige Danske videnskabernes Selskab matematiske-fysiske meddelelser* 40, no. 6, (1979).

On chronology and the calendar, see P. HUBER, *Astronomical Dating of Babylon I and Ur III* (1982); RICHARD A. PARKER and WALDO DUBBERSTEIN, *Babylonian Chronology* (3rd ed. 1956); and ELIAS J. BICKERMAN, *Chronology of the Ancient World* (1980).

SEE ALSO **Chronology: Issues and Problems** (Part 5, Vol. II); **The Use of Knowledge in Ancient Mesopotamia** (Part 8, Vol. III); and **Metrology and Mathematics in Ancient Mesopotamia** (Part 8, Vol. III).

Metrology and Mathematics in Ancient Mesopotamia

MARVIN A. POWELL

MESOPOTAMIAN EVIDENCE affords the earliest glimpse into the interaction between metrology, the science of measurement (or approximation *par excellence*), and the exact sciences. The “exact” sciences are, by nature, those that employ mathematical methods; in ancient Mesopotamia, these were limited to mathematics and astronomy. This essay examines the nature of science in ancient Mesopotamia and addresses the question of why we have evidence for mathematics and astronomy and almost none for physics and chemistry. It also provides a thumbnail sketch of Mesopotamian mathematics and describes how interaction of metrology and arithmetic led to the sexagesimal system of calculation.

SCIENCE, SOCIETY, AND THE ANCIENT SOURCES

A sizable body of artifactual (archaeological) remains has been recovered from ancient Mesopotamia, ranging from simple objects to complex architectural structures. These material sources, however, are fragmentary and difficult to use, and study of them is still in an incipient stage. At present, most of our really useful sources for

ancient Mesopotamian science consist of cuneiform records. These begin around 3000 BCE and continue into the first century CE, but they, too, are rarely easy to interpret and, moreover, have a hidden bias: all were written by and reflect in some way the social viewpoint of persons we call scribes. These scribes were almost all adult males, constituted a tiny percentage of an otherwise illiterate population, and—despite social differences among them—formed a kind of special class that interfaced between the governing elite and the rest of society.

We should not be surprised, therefore, that sciences attested in the written record seem to be associated in some way with higher social status. Priests and princes fell ill and needed medical treatment, and like everyone else, they too were concerned about the mysterious lights in the heavens. So, naturally, evidence for medicine and astronomy turns up in the written record. Mathematics—or perhaps more accurately, practical arithmetic—surfaces even earlier, a natural result of its intimate link with accounting.

Indirect evidence for mathematics goes back to the beginning of writing; direct evidence for the teaching of mathematics begins around 2200 BCE. Evidence for pharmacological recipes appears shortly before 2000, and there is indirect

evidence for systematic observation of heavenly bodies by the seventeenth century. Around 1300, startling evidence of the achievements of practical chemistry turns up in the form of recipes for glass, which, like perfume—for which recipes have also survived—has upper-class associations. About other aspects of chemistry and about physics we know almost nothing, probably because these sciences were embedded in particular professions and transmitted almost exclusively by oral tradition. The same is true of the technological side of astronomy.

This pattern of evidence cannot, however, reflect reality. Mathematics is the earliest to appear in the written record, but both medicine and astronomy must have preceded mathematics by not merely centuries but millennia. The case of astronomy (considered further in the chapter “Astronomy and Calendars in Ancient Mesopotamia,” earlier in this volume) is characteristic.

Practical astronomy, especially that affecting the agricultural calendar, cannot have been invented later than the Neolithic period. Even older must be knowledge of the basic movements of the fixed stars, of the sun, and of the moon, insofar as they affected practical matters like timekeeping and orientation. All of these are probably a common heritage of the paleolithic era, as are the thirty-day month and the association of equinoxes and solstices with the heliacal risings or settings of certain stars just before dawn and just after sunset. But this practical astronomy remains virtually unrecorded throughout the history of Mesopotamian civilization. What finally emerged in the written record had little, if any, practical value: the detailed recording of the movements of heavenly bodies, for which mathematical methods were increasingly pressed into service. This goes back to the Mesopotamian concern with interpreting omens and the desire to unravel the future. As a social phenomenon, Mesopotamian astronomy cannot be distinguished easily from astrology, any more than medicine can be distinguished easily from the craft of the exorcist.

This pattern of evidence for science is characteristic in a greater or lesser degree of all societies prior to the fifteenth century CE, when converging technologies (including cheap and efficient means for storing and diffusing information, such as the “marriage” of paper with printing) began the rapid series of changes that

separates the modern world from the medieval and ancient past. That premodern world was, of course, never static. We in the modern West, who perceive change as the natural order of things, can easily grasp that fact; however, as one moves backward in time, the rate of change slows proportionately. Ancient Mesopotamians lived in a world in which change—except for the cycle of life and death—was hardly perceptible. In short, Mesopotamian society is probably best described by the term “traditional.” In such societies, social status, profession, and the like tend to be viewed as part of an immutable order of things, and communication of information tends to be formal and limited by all sorts of unwritten customs.

Such limitation, of course, had a direct effect on the development of science in Mesopotamia because it fragmented and compartmentalized knowledge and inhibited change. We are just beginning to lift the veil of words and to glimpse the real face of Mesopotamian social dynamics. Much, therefore, remains uncertain; however, none of the evidence suggests that ancient Mesopotamians regarded change or the free exchange of knowledge as anything except undesirable and pernicious. Greek science, we should recall, emerged in a world of small, relatively unstratified societies, of social upheaval, and of expanding horizons. At least some Greek thinkers came to recognize that change is not merely the “turning” of the same old world on the same old pivot but does indeed produce a different world. Ancient Mesopotamia was the antithesis of all this, and these contrasts between “West” and “East” persist even today.

More significant than the rather sparse evidence of Mesopotamian science that has survived is what is missing from the written record. A few examples will characterize the picture we have at present. Metallurgy, which seems to have experienced major changes in the fourth and third millennia, especially in bronze technology, is not represented by a single work in the entire written corpus of ancient Mesopotamia, and it seems rather probable that no such works were ever composed. Likewise, even though the Sumerians already knew the arch and the dome in the third millennium, there is no evidence for any systematic work on architecture. Even more striking, given the importance of irrigation and water control, is the absence of any descrip-

tion of the science of hydraulic engineering, though the rudiments of such a science must have been in place by the third millennium BCE. These exemplify the blind eye with which Mesopotamian intellectuals viewed "practical" science (see "The Use of Knowledge in Ancient Mesopotamia" earlier in this volume). Metallurgy, architecture, and hydraulic engineering were of strategic and vital economic importance, but no descriptions have survived, and it is not likely that they were ever written. This is not from lack of knowledge, for the written sources, especially letters and administrative records, make it clear that there were scribes in the society who knew enough about these sciences to have described them in detail.

Negative attitudes toward "banausic" (practical) or "sordid" sciences are certainly not unique to ancient Mesopotamia, but the almost total absence of such sciences from the entire cuneiform record suggests that these attitudes pervaded Mesopotamian society in all eras. We know that the nonelite sciences were alive and well, stored in human brains, and passed from generation to generation. What we do not know, and probably can never learn, is *how* principles from one science were transferred and applied in another, although we can be certain that this did happen. Two early examples of this kind of transfer of information from one profession to another that profoundly affected the course of ancient life (fourth to third millennia) were the application of the principle of rotary motion to the creation of wheeled vehicles and ultimately to the war chariot, and the application of the knowledge of the properties of materials and their behavior under stress to create the composite bow. None of this could be elicited from the written sources alone.

In short, Mesopotamian science and what was recorded about it were profoundly conditioned by social realities. Only elite, "clean" sciences entered the written record; all the rest remained within the oral tradition and therefore never became the subject of intellectual discussion. But even in the "clean" sciences it is never clear that free, intellectual discussion—such as we find among the Greeks—ever took place. And it is in social phenomena that we must seek at least some of the underlying causes for poorly developed scientific thought, rather than in vague, ill-defined categories such as the "mythopoeic mind" or the "spirit of the people."

As far back as we can pursue the problem in the written sources, Mesopotamian society and ancient near eastern societies in general evince profoundly hierarchical characteristics. Free expression of ideas—even among intellectuals—must have been extraordinarily rare. To challenge the ideas of one's elder or social superior was probably as unthinkable as striking one's superior. The *Code of Hammurabi* makes it clear that failure to show deference to one's superiors could have grave consequences, including brutal physical punishment; the beatings administered to schoolboys by school personnel—depicted in "school days" compositions as part of the normal order of things—fit the same pattern. Moreover, Old Babylonian mathematical problem texts occasionally seem to have overtones of the same sort of glee in lording one's superiority over someone else that one finds reflected in literature in the Sumerian "disputation" compositions and in real life in Assyrian royal inscriptions. In short, the ancient Near East did not foster the sort of intellectual climate that encouraged the development of critical thought, to say nothing of the recording of scientific knowledge that had "sordid" associations.

MATHEMATICS

In mathematics we have a sample of the vibrant side of the Mesopotamian intellect. Number logic is a world unto itself, one in which social realities are temporarily suspended while the game is in progress, which perhaps accounts for the fact that Mesopotamian mathematics stands out as the sole representative of a "science" in modern terms. But here, too, the type of evidence that was actually written down was probably determined largely by the social realities discussed above.

Age and Character of "Babylonian" Mathematics

Though sporadic evidence for Mesopotamian mathematics continues from the early third millennium through the end of the cuneiform tradition, the majority of the surviving sources for Mesopotamian mathematics clusters in the Old Babylonian period. This has usually been inter-

preted as evidence for a flourishing era of mathematical thought, but the truth of such a view is not so clear. Absence of written sources has all too often been thought to imply “dark ages,” which upon closer examination or through new discoveries have turned out not to have been so dark after all, with the result that periods previously thought “brilliant” seem much dimmer.

Most Sumerian literary works are likewise known from manuscripts written in the Old Babylonian period, and some may have been original compositions of that period. It seems likely, however, that even “original” Sumerian compositions of the Old Babylonian period were inspired by similar compositions that existed in the third millennium. Thus, we are faced with the curious phenomenon that throughout the period when Sumerian was clearly a living language, written evidence for literature is sparse, and what does exist resembles a skeleton: the flesh and blood obviously resided in the oral tradition.

It may well be that we have a parallel case with Old Babylonian mathematical texts. Most of the mathematical texts are written in Akkadian, and this, too, has been viewed as evidence for a date in the Old Babylonian period. This, however, is not a convincing argument because Akkadian speakers had been participating in the intellectual life of Mesopotamia for centuries, and, as we shall presently see, it is probable that a major reform of the metrological-arithmetical calculation system was carried out under Naram-Sin of Akkad, whose advisers were likely to have been not Sumerian, but Akkadian, speakers.

The problem of the age of Mesopotamian mathematics, because of its technical nature, has usually been treated in isolation from other aspects of Mesopotamian culture. If one considers the historical evidence as a whole rather than merely what has accidentally survived for mathematics, it seems equally, if not more, probable that the truly creative era of Mesopotamian mathematics lay in the four centuries before 2000 BCE, rather than in the succeeding four centuries of the Old Babylonian period.

The types of mathematical texts that have survived—primarily tools and textbooks—do not contradict this assumption. The tool repertoire is composed of various tables: reciprocals, multiplication, squares, roots (square and cube), key

numbers or constants, powers and exponents for selected numbers, and a few others. These mathematical “tool texts” are paralleled by metrological tables that, like the other tables, begin to be well attested only in the Old Babylonian period. We know, however, that the metrological relationships represented in Old Babylonian tables are at least as old as the time of Naram-Sin (see below), and many of them are much older. Parallel to the mathematical textbooks (often termed “problem texts”) are practical compositions like the unilingual (Sumerian) manuscripts of the practical-life phrasebook that eventually developed into the bilingual compilation of words known as *URA = hubullu* (“interest” in Sumerian = “interest” in Akkadian). Other parallels could be adduced.

The “textbooks” consist of collections of problems but, like most of the technical material that has survived in cuneiform, these seem not to be designed for students but, rather, for teachers or practitioners. Though some are organized in a way that is pedagogically sound, the vast majority are obviously not of the “teach yourself mathematics” type. This fits the social paradigm that we have described above. Most teaching must have been done orally. The student’s task was to listen respectfully and attentively, and to learn by repetition.

Achievements and Limitations of Mathematical Thought

From what has already been said about the primacy of oral tradition, the reader will not be surprised to learn that evidence for underlying mathematical thought is rather elusive. We really know nothing about how mathematics was pursued as a discipline. The “problem texts” provide the clearest insight into the processes of thought, in particular into the use of algebraic logic, of which the Mesopotamians—most likely the Sumerians—may be regarded as the original inventors. As the Swedish scholar Jöran Friberg has aptly assessed, they “were masters of the art of manipulating elementary but often complex algebraic expressions, with one or several unknowns, and in any conceivable way.” Illustrative, but not exhaustive, of this type of mathematical logic are quadratic equations, a few special cases of cubic equations, and arithmetic progressions with summation rules (ap-

plied, among other things, to the problem of compound interest).

Geometry, in which algebraic method was also applied, is the other major area represented by mathematical problems. Plane geometry is represented by problems dealing with the areas of squares, rectangles, triangles, trapezoids, other quadrilaterals, regular polygons, circles, and parts of circles. The solid geometry of figures with straight lines is represented by cubes, prisms of rectangular or triangular or trapezoidal shape, and truncated pyramids. The solid geometry of objects with curved lines included cylinders and truncated cones.

An example of the numerical precision of which Mesopotamian mathematics was capable is the sexagesimal value 1;24,51,10 for the square root of 2. In a ten-place decimal approximation, this corresponds to 1.414212963, which is very close to the more precise 1.414213562. It is typical of our evidence that there is nowhere in the mathematical corpus any description of how this approximation was found—probably by observing that the square of 1;24 ($1 + 24/60$) was less than 2, whereas the square of 1;25 was greater, and then proceeding gradually to discover an acceptable value. The motivation for computing such a precise approximation probably lay in its use to find the diagonal of a square where the side was known. In fact, it occurs both in connection with a geometrical diagram and in a list of key numbers as a “diagonal coefficient.”

Standing in contrast with this precision is the gross approximation 3 for pi. Use of 3 persisted throughout the history of Mesopotamian mathematics, not only because an integer permitted easy calculation but also, probably above all, because it permitted rational numerical relationships between squares inscribed within circles and circles inscribed within squares. The motive, which is not radically different from the sort of thing one finds represented in Greek culture among the Pythagoreans, is easily understandable. To the present it has been impossible to discover in Mesopotamian mathematics overt use of any value for pi except 3.

However, in the process of metrological analysis, it did not escape the attention of the Mesopotamians that 3 is not a satisfactory value for pi when one is dealing with cylindrical or conical forms that require accurate statement in terms

of both volume (measured in terms of length units) and capacity (measured in terms of customary units for measuring special commodities). Thus, in the statement of the volume of “logs,” a more accurate sexagesimal value of 3;7,30 ($= 3.125$ decimal) for pi was used. This is encoded among key numbers in the form 4;48 ($= 4.8$ decimal). This rather cryptic number is the reciprocal of 12;30 ($= 12.5$ decimal) and reflects an intellectual process approximating the formula

$$\text{volume} = \frac{\text{circumference}^2}{4 \times \pi} \times \text{height}.$$

That Mesopotamian mathematicians should not have discovered 3;7,30 as a rational approximation for pi is remote indeed. As with the square root of 2, this involved approximation, but also interaction between arithmetic and actual measurement. Among 419 two- and three-place sexagesimal numbers in the appropriate range, only 3;7,30 provides a satisfactory calculation value that is also approximately correct. Moreover, this value is established by linkage to the capacity system, which describes the volume of logs in terms of a liter-sized measure called SILA. Theories have been advanced to explain this value by positing, instead of 3;7,30 for pi, varying sizes for the SILA, but this is metrologically improbable and, moreover, rests on no factual foundation.

To sum up, probably the single most impressive aspect of Mesopotamian mathematics is its use of algebraic logic with strong geometric overtones. Assessing its limitations is more difficult. Trigonometry is missing, which is perhaps not surprising, but so is any evidence for the geometry of cones, pyramids, and spheres. It is a bit hard to believe that no Mesopotamian mathematician ever thought about these things in the course of three millennia. On the other hand, although knowledge of the basic laws of exponents seems to be implied in several tables, there is no evidence for systematic application of these laws. It seems clear that Mesopotamian mathematics remained essentially elementary, but the nature of our source material—tables and textbooks whose age of origin remains in doubt—will continue to make assessment of the outer limits of mathematical thought elusive.

Translation of Two Problems Illustrating the Character of Babylonian Geometric and Algebraic Logic

Two problems (nos. 10 and 11) from a mathematical tablet in the British Museum (BM 13901; see François Thureau-Dangin, *Textes mathématiques babyloniens* [1938], pp. 4–5) illustrate the curious mingling of geometric and algebraic logic that seems to underlie much of Mesopotamian mathematical thought. The interpretation given here follows, on the whole, the line of argument developed in the 1980s by the Danish scholar Jens Høyrup of Roskilde University. The translation reproduces as closely as possible the wording of the ancient texts, because only in this way is there any hope of penetrating to the logical core of Mesopotamian mathematical thought, which is very different from modern algebra. Material implied but not actually in the ancient text is enclosed in parentheses (. . .). Interpretative commentary and modern equivalents are enclosed in brackets [. . .].

Problem no. 10: (The) field(s) [i.e., area(s)] of my two sides-of-squares [things facing one another equally → side of square → square itself] I have piled together, and (the resulting sum is) 21 15 [i.e., 21 SAR (garden plots) and 15 GÍN (shekels) or 21 25 square NINDAN (measuring rods); see figures 10 and 11].

Square is less than square (by the) sevenths [or, perhaps, sevens].

You touch [operate with the counters] 7 and 6. You let 7 and 7 eat with one another (and this gives you) 49 [i.e., the number of squares in the larger square having sides that are $\frac{1}{7}$ of the length of the larger side]. You let 6 and 6 eat with one another, (and this gives you) 36 [i.e., the number of squares in the smaller square having sides that are $\frac{1}{6}$ of the length of the smaller side].

(This 36) and 49 you pile together, and (this gives you) 1 25 [85 equal squares whose sides are $\frac{1}{7}$ of the side of the larger square and $\frac{1}{6}$ of the side of the smaller square].

(The) eye [i.e., reciprocal] of 1 25 cannot be released [i.e., 85 has no rational reciprocal]. What should I put to 1 25 that will give me 21 15 [i.e., by what must I multiply the 85 equal squares that will give me the total surface 21 25 SAR]? 15 (is the answer) [i.e., 15 shekels or 0 25 garden plot of area] (and) for (this 15), 30 (is the number that) makes it square [or alternatively: 30 is the side of the square; or, arithmetically: 30 is the square root].

You carry 30 to 7 [the number of squares along one edge of the larger square], (and this gives you) 3 30 [i.e., 210 6-finger units or 3.5 NINDAN or 7 reeds], (which is the) one side-of-square [i.e., the side of the larger square]. You carry 30 to 6 [the number of squares along the edge of the smaller square], (and this gives you) 3 [i.e., 180 6-finger units of 3 NINDAN or 6 reeds], (which is the) second side-of-square [i.e., the side of the smaller square].

Problem no. 11: (The) field(s) of my two sides-of-squares I have piled together, and (the resulting sum is) 28 15 [i.e., 28 SAR, 15 GÍN or 28.25 square measuring rods or garden plots].

Square is greater than square (by the) sevenths [or sevens].

You touch 8 and 7. You let 8 and 8 eat with one another (and this gives you) 1 4 [= 64, i.e., the number of squares in the larger square having sides that are $\frac{1}{8}$ of the length of the larger side]. You let 7 and 7 eat with one another, (and this gives you) 49 [i.e., the number of squares in the smaller square having sides that are $\frac{1}{7}$ of the length of the smaller side].

(This 49) and 1 4 [= 64] you pile together, and (this gives you) 1 53 [= 113 equal squares whose sides are $\frac{1}{8}$ of the side of the larger square and $\frac{1}{7}$ of the side of the smaller square].

(The) eye of 1 53 cannot be released [i.e., 113 has no rational reciprocal]. What should I put to 1 53 that will give me 28 15 [i.e., by what must I multiply the 113 equal squares that will give me the total surface 28.25 SAR]? 15 (is the answer) [i.e., 15 shekels or 0.25 garden plot of area], (and) for (this 15), 30 (is the number that) makes it square [or, alternatively: 30 is the side of the square; or, arithmetically: 30 is the square root]. You carry 30 to 8 [the number of squares along one edge of the larger square], (and this gives you) 4 [i.e., 240 6-finger units or 4 NINDAN or 8 reeds], (which is the) one side of square [i.e., the side of the larger square]. You carry 30 to 7 [the number of squares along the edge of the smaller square], (and this gives you) 3 30 [i.e., 210 6-finger units or 3.5 NINDAN or 6 reeds], (which is the) second side of square [i.e., the side of the smaller square].

Problem 10 (and analogously problem 11) can be *interpreted* algebraically as follows:

$$x^2 + y^2 = 21\ 15$$

$$y = (1 - \frac{1}{7})x$$

$$x = 7z, y = 6z$$

$$x^2 = 49z^2$$

$$y^2 = 36z^2$$

$$x^2 + y^2 = (7^2 + 6^2)z^2 = 1\ 25\ z^2 = 21\ 15$$

$$15 \times 1\ 25 = 21\ 15$$

$$z^2 = 15$$

$$z = 30$$

$$x = 7 \times 30 = 3\ 30$$

$$y = 6 \times 30 = 3$$

(For interpretation of the numbers, see fig. 10 and the box "Use of Metrological and Geometric Concepts," below.)

The second problem, however, reveals the original core of the whole logical process, which is more geometric than algebraic. The number 64 provides the clue. It is a favorite in traditional field mensuration because of the role that 2 and 4 play in the geometry of squares. The probable thought processes that underlay problems 10 and 11 are illustrated in the box "Use of Metrological and Geometric Concepts," below.

Use of Metrological and Geometric Concepts in Mathematical Reasoning

Begin with the length unit 1 reed and construct a square:



sides = 1 reed
area = 1 square reed

Multiply this square by 4 to create a larger square:



sides = 1 NINDAN or measuring rod
(= 2 reeds)
area = 1 square NINDAN
(= 4 square reeds)

This new surface unit is called a SAR (garden plot) and equated, for purposes of calculation, with sixty shekels (the equivalent of one mina in the system of weights). Thus, each of the four square reeds that make up the square NINDAN is composed of fifteen shekels. This is the "square number" that appears in both problems. In such a thought process, it is obvious that 30, which stands for half of the NINDAN, is identical with one reed; 30 is therefore both the side of the square reed and, arithmetically, the square root of fifteen. The 30, however, that represents 1 reed is no mere "fraction," because it also represents thirty length units of six fingers each. These six-finger units are not part of the original system of metrology (which operated with five-finger hands) but, rather, part of the protometric, sexagesimal system of calculation that came into being around the time of Naram-Sin of Akkad: 6 fingers are $\frac{1}{60}$ of the NINDAN (measuring rod) and therefore function like 60^{-1} . Moreover, each shekel of area contained sixty squares, each of which had sides six fingers in length, and each of these little squares was called a "little shekel." Thus, although we can "translate" 30 into numeric decimal terms as 0.5 and think of it as the square root of 0.25, we must keep in mind that the *original* Mesopotamian thought process may have been quite different.

By an analogous process, one can create larger squares like the one below, which illustrate the numeric, as well as the geometric, relationships 2 (NINDAN) squared = 4 (square NINDAN) and 4 (reeds) squared = 16 (square reeds):



By the same process, one arrives at the square that appears in problem 11 (see box "Translation of Two Problems," above).

	1	2	3	4	5	6	7	8	
									8
									7
									6
									5
									4
									3
									2
									1

In theory, one could continue constructing larger squares by the same method. However, for this type of problem, 64 is the upper limit of what one can grasp visually and, indeed, is quite sufficient for working out basic geometric and numeric relationships. Moreover, problem 11 includes the factor 7, which always produces numbers without rational reciprocals and therefore serves the additional function of demonstrating a method for dealing with such numbers. Finally, one should note that this square illustrates the interesting numerical relationship $(2^3)^2 = 64$. This type of geometric logic leads intuitively to the tacit recognition of mathematical identities as well as to incipient understanding of the laws of exponents, and it also provides a clue to why the concept of identity and systematic application of the laws of exponents are so elusive in Mesopotamian mathematics: the logical mind that discovered them lies lost in the nameless world of the third millennium; Old Babylonian mathematical texts are primarily intended as an aid to applied mathematics and are designed to teach algorithms.

TABLE 1
The Sumerian Counter System (Hypothetical Reconstruction)

Symbol	Numeric Meaning	Sumerian Name	Basic Meaning
◐	1	DIŠ	unknown
◐◐	10	U	unknown
◐◐◐	60	ⁿ GEŠ	unknown
◐◐◐◐	60×10	ⁿ GEŠ U	(sixty ten times)
◐◐◐◐◐	60^2	ŠAR	disk/ball (?)
◐◐◐◐◐◐	$60^2 \times 10$	ŠAR U	disk/ball (?) -ten
◐◐◐◐◐◐◐	60^3	ŠAR GAL	disk/ball (?) -big
◐◐◐◐◐◐◐◐	$60^3 \times 10$	ŠAR GAL U	disk/ball (?) -big-ten

The numerical representation 11, 1, 1 or [◐◐◐◐◐◐◐◐] [◐◐] [◐◐] would equal $[(60^2 \times 10) + 60^2] + 60 + 1 = 39,661$.

The numerical representation 1, 11, 11 or [◐◐] [◐◐◐◐◐◐◐◐] [◐◐◐◐] would equal $60^2 + 660 + 11 = 4,271$.

Mathematics and Metrology: Sexagesimal Calculation

A system of positional notation and calculation using 60 as a base is one of the characteristic features of Mesopotamian mathematics. This is often referred to collectively as the “sexagesimal system.” In its most basic sense, “sexagesimal” denotes a system of counting that used the numbers 1, 2, 3, 4, 5, 10, and 20 in additive and multiplicative processes to reach 60. One then started over again and used analogous arithmetic processes to arrive at the second power of sixty, and so on. This system of counting is known only in the Sumerian language, and it seems likely that it originated with the Sumerians. Why they counted in sixties rather than hundreds is one

of many intriguing questions about ancient times to which we shall never know the answer for certain, precisely because its origins lie beyond the beginning of writing itself. This is, of course, frustrating, and there has been no lack of attempts to supply the missing facts by theories ranging from the possible—but not necessarily probable—to the absurd.

In a secondary sense, “sexagesimal” refers to the use of special symbols to count objects or measures. The origins of these symbols also lie in the prewriting era, because systems of number symbols for counting objects and measures had already appeared in the early cuneiform script. The prototypes for these number symbols are probably to be found in the ubiquitous clay counters or “tokens,” which were intensively

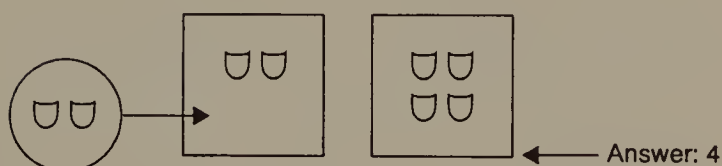


Fig. 1. Increasing or augmenting 2 by 2. This figure illustrates the concept underlying the verbs DAḪ (Sumerian) and *waṣābu* (Akkadian).

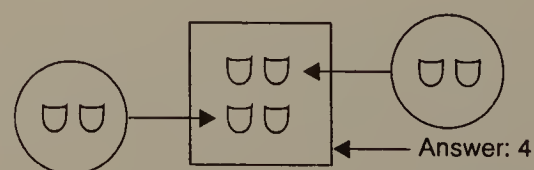


Fig. 2. “Putting together” 2 and 2. This figure illustrates the concept underlying the verbs GAR (Sumerian) and *kamāru* (Akkadian).

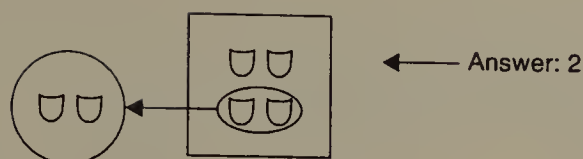


Fig. 3. Subtracting 2 from 4. This figure illustrates the concept underlying the verbs *z1G* (Sumerian) and *nasāhu* (Akkadian).

studied in the 1970s and 1980s by Denise Schmandt-Besserat (see her chapter, “Record Keeping Before Writing,” in Part 9, Vol. IV). Diverse opinions have been expressed about the interpretation of these curious clay objects, but there does seem to be some kind of historical connection between them and the earliest writing. In particular, the patterns in which number symbols are impressed on clay in the era just preceding writing resemble the patterns of number symbols in the early cuneiform script.

Proving a connection between the clay counters and the system of numerical notation embodied in the writing system continues to be elusive, because the system underlying these number symbols can be demonstrated only within the context of writing. However, if we were able to analyze the basic meanings of the words in Sumerian for the powers of 60, we might find that they are nothing but names for counters. It seems likely that the word *šAR* in Sumerian, which denotes the second power of sixty, actually referred originally to a disk-shaped or ball-shaped counter. In any case, the terms for the next two powers of sixty seem to point in this direction: “big *šAR*” is the term for 60^3 , and 60^4 means literally “big *šAR* that is not touched by hand.” These cannot be quaint terms reflecting some “primitive” counting system, because by the time primitive counting systems arrive at numbers as high as 60^2 —to say nothing of 60^3 and 60^4 —they are no longer primitive.

In sum, it seems likely that the Sumerians already possessed in the fourth millennium—before the invention of writing—a system of counters running up to the equivalent of 60^3 (the “big *šAR*”). When the counter system was transposed into writing, the recording part of the prewriting accounting system surfaced in the form of numerical notation, whereas the more basic calculation part remained within the oral tradition. As a result, how the calculation system functioned

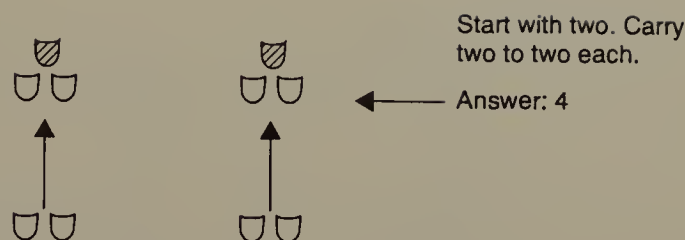


Fig. 4. Simple multiplication: “carrying 2 to 2.” This figure illustrates the concept underlying the verbs *tUM* (Sumerian) and *wabālu* and *našū* (Akkadian). The basic idea that they express is picking up a concrete object and carrying or transporting it somewhere. Conventional translation assumes that they are used in an abstract sense in mathematical texts, but it is more probable that originally the concrete objects being “carried” were counters.

remains largely a mystery, but by putting together evidence from disparate sources, we can make some educated guesses about its concepts and procedures.

In Old Babylonian mathematical texts we find terms for procedures that suggest an origin in the manipulation of actual counters in a system analogous to but distinct from that used by the abacus (see table 1 for a hypothetical reconstruction of such counters). For example, use of different verbs to express the same arithmetic proce-

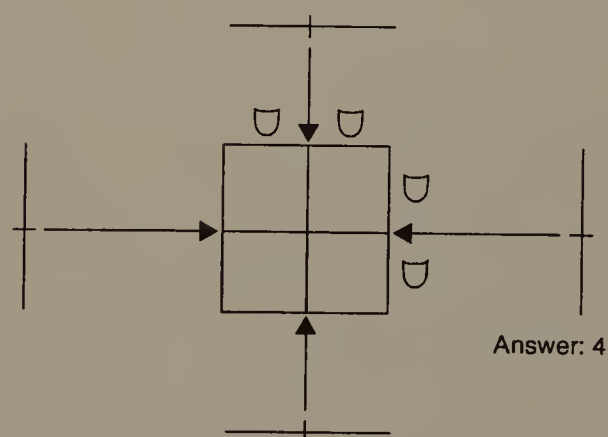
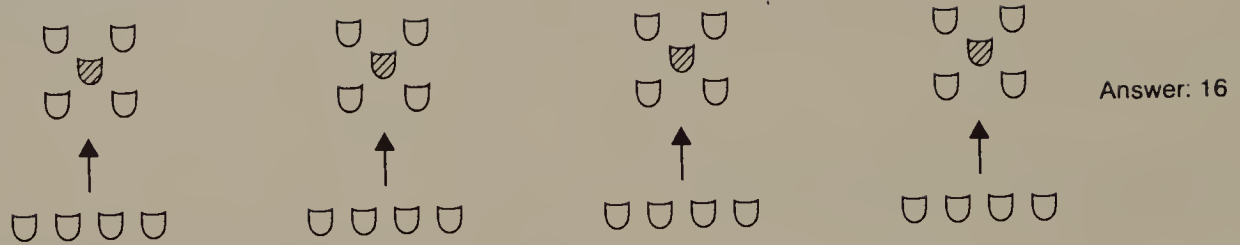


Fig. 5. Geometric concept of squaring: “letting 2 face 2 all round.” This figure illustrates the concept underlying the causative verb form *šutamḥuru* in Akkadian, derived from *maḥāru* “to face off, be opposite.” The “reflexive” *-ta-* infix probably implies here “all round” or “in each case.” The Sumerian verb is written with the ideogram *NIGIN*, of which the pronunciation and basic meaning are not entirely clear.

Letting 4 eat with 4



Problem: Multiply 4 by 4, using the developed counter system that had only 9 one-counters (U)s.

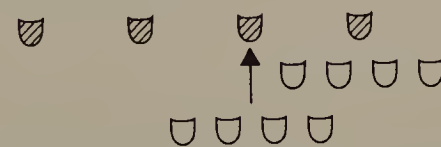
Step 1: Imagine the original 4 1s without placing them on the board.



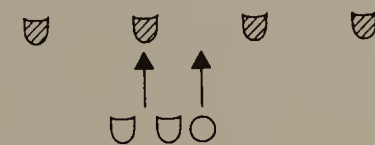
Step 2: Carry 4 to the first 1.



Step 3: Carry 4 to next 1.



Step 4: Begin to carry 4 to the next 1 by using the ninth and last one-counter. Then remove the nine counters from the board and place a ten-counter on the board to represent the first ten ones. Continue carrying 4 to the third 1 (two more 1s to place in this step).



Step 5: Carry 4 to the fourth 1.



Answer: $\bigcirc \bigcup \bigcup \bigcup = 16$

Fig. 6. Multiplication of a number by itself: “letting 4 eat with 4.” This figure illustrates the concept underlying the causative verb form *šutākulu* in Akkadian, derived from *akālu* “to eat.” The corresponding Sumerian verb is *cu₇*. The basic concept seems to go back to a concrete idea: one has four persons or counters and “lets four (persons or counters) eat with (each of the) four.” The answer is then found by adding the “eaters” (that is, the counters that have been moved). Figure 6 illustrates how the term probably began. In the developed counter system shown in table 1 and figures 7–8, the number of one-counters would not have exceeded 9, and actual manipulation of the counters would probably have looked like the five-step process illustrated here.

Problem: Add 11,1,1 (= 39,661) to 1,11,11 (= 4,271).

(Note: from the complete set of counters I have shown only those needed to make the calculation, i.e., the symbols for 60^3 and $60^3 \times 10$ are not shown.)

Starting with this set of counters



one is instructed to:

Step 1: Put down (or place) 1,11,11. From the set of counters one takes the following and puts



Then one is instructed to:

Step 2: Add 11,1,1. One takes from the counters remaining at the end of step 1 the following counters:



and places them on the board with the counters from step 1, which gives the following answer:



Answer: 12,12,12 (= 43,932)

Fig. 7. A simple addition problem using counters. See table 1 for the numerical values of the counters.

procedure suggests survival of primitive calculation techniques parallel to those that emerged in the written record. Thus, "adding x to y " is expressed by a pair of verbs in Sumerian and Akkadian that seems to imply situations such as adding personnel to an already-existing work list or adding interest to an existing principal, as represented in figure 1. The identical arithmetical procedure of "adding x and y " was expressed by a different pair of Sumerian and Akkadian verbs, probably because the underlying calculation procedure was different and originally implied "stacking together" or "piling together," as shown in figure 2. The first case involves adding 2 to an already existing 2, whereas the second involves taking two sets of 2 and putting them together. Subtraction, shown in figure 3, was the opposite procedure of the type of addition shown in figure 1.

Terms for multiplying and squaring point to similar procedures. "Multiply 2 times 2" is expressed by "carry 2 to 2," which suggests a proce-

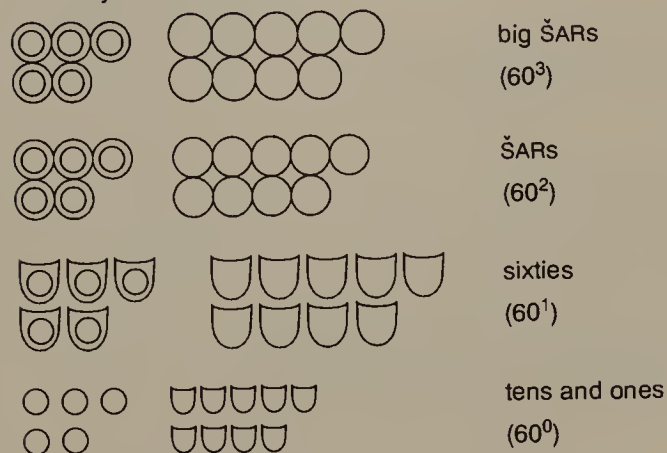
cedure like that shown in figure 4. To multiply a number by itself could be expressed in different ways, depending on whether the underlying procedure was geometric or numeric. The geometric procedure, shown in figure 5, was expressed by a Sumerian verb that probably meant something like "to complete the perimeter"; the corresponding Akkadian term seems to mean "to let [each side] face the other." Numeric multiplication of a number by itself, however, was expressed with the verb "to eat"; the basic sense of the Akkadian verb was probably "to let n eat with n ." The full Sumerian expression has not yet been discovered, but the Sumerian verb *gu*, "to eat," turns up in a number of technical accounting expressions, and it is likely that the Akkadian is simply a loan translation implying a situation like that shown in figure 6.

Procedures like these readily allow reduction of basic arithmetic functions to addition and subtraction, which was probably the original purpose of the system. A fairly elaborate system of

Fig. 8. A multiplication problem using counters. See table 1 for the numerical values of the counters.

Problem: Carry 11 to 1,11,11 (multiply 4,271 by 11).

Here is your set of counters:



Step 1: Put down (or place) 1,11,11 (= 4,271)

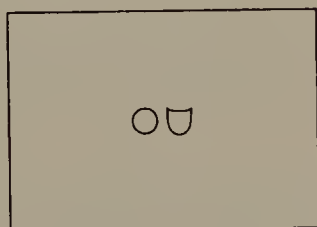


Step 2: Carry 11 Šs to Š.



I do not have 11 Šs but ○Š is the same thing, so I place ○Š in my answer.

Answer box following step 2



Step 3: Carry 11 Os to ○.



I do not have 11 Os but Š○○○○○ is the same thing, so I need to place Š○○○○○ in my answer.

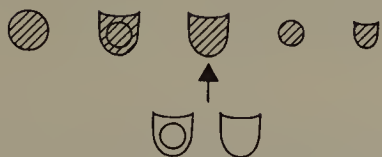
I place Š in my answer; however, I have only 4 Os on my counting board, because I have already used 1 ○ in my answer.

If I lift up the ○ from my answer, this will give me the 5 Os I need. However, I still need another ○ for my answer. This makes 6 Os that I need, and 6 Os are the same thing as Š. So I now put an additional Š into my answer, which now looks like this:

Answer box following step 3

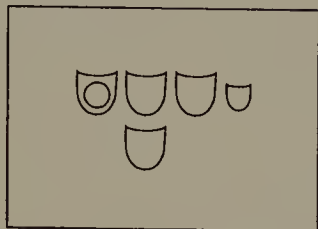


Step 4: Carry 11  s to .

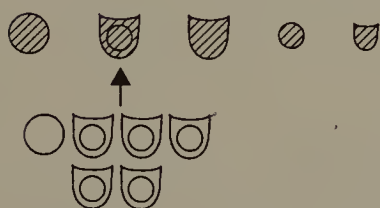


I do not have 11  s but   is the same thing, so I need to place   in my answer, which now looks like this:

Answer box following step 4



Step 5: Carry 11  s to .

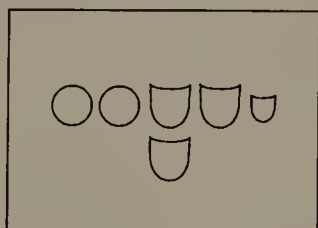


I do not have 11  s but     is the same thing, so I need to place     in my answer.

I place  in my answer; however, I have only 4  s on my counting board, because I have already used 1  in my answer.

If I lift up the  from my answer, this will give me the 5  s I need. However, I still need another  for my answer. This makes 6  s that I need, and 6  s are the same thing as . So I now put an additional  into my answer, which now looks like this:

Answer box following step 5

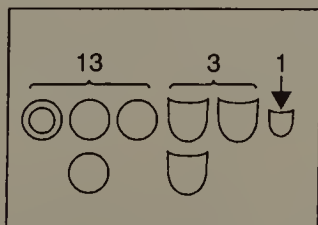


Step 6: Carry 11  s to .



I do not have 11  s but   is the same thing, so I place   in my answer, which now looks like this:

Answer box following step 6



$$13,3,1 = (13 \times 3,600) + (3 \times 60) + 1 = 46,981$$

calculation must have been in existence at the time writing was invented. The inventor (or inventors) of the script simply adapted it for recording on clay tablets. Like many other things whose existence we suspect or can infer, the system of calculation is never described, even in mathematical texts, but figures 7 and 8 illustrate how the system probably functioned, based on the phraseology of mathematical texts from the Old Babylonian period and using the likely reconstruction of the counters shown above in table 1.

As one can see, a system like this is practically identical with place notation. As long as one employs counters or notation based on counters, there is no great need for a symbol like zero to mark "empty" places, and this is probably one of the reasons why the zero concept remained so undeveloped in Mesopotamian mathematics. Indeed, the so-called zero symbols that appear sporadically in Old Babylonian mathematical notation and more systematically in Late Babylonian are in reality space markers, which again points to a system of calculating that was anchored in the manipulation of concrete objects. As can be seen from figures 7 and 8, the symbols for 1, 60, and 60^2 lend themselves to manipulation as powers of 60—that is, 60^0 , 60^1 , 60^2 . Eventually, toward the end of the third millennium, a system of notation emerged that is quite similar to our system of decimal place notation. The most striking differences between Mesopotamian sexagesimal notation and decimal notation are the lack of interest in zero and the absence of anything resembling our concept of the decimal point.

The Origins of Calculation with Reciprocals

Absence of a clear distinction between "fractions" and "whole numbers" is one of the distinctive features of Mesopotamian mathematics, and this is linked to a distinctive system of calculation associated with "reciprocals." Our terms "reciprocal" and "inverse" are both of Latin origin and reflect underlying concepts of "returning," "coming back," and the like. The Mesopotamian concept of "reciprocal" is quite different and has to do with "dissolving," "break-

ing up," and "releasing." The origins of this idea seem to lie in what would appear to be a rather unlikely question: How does one "release" the parts of a mina?

This idea apparently arose from observing the behavior of units of mass counterpoised in a balance. The process is illustrated in figure 9. In the right balance pan is a one-mina weight. In the left pan the mina weight is "dissolved" or "broken up" into two parts. The question that led to the discovery of "reciprocals" was, How many component parts are in each of the two "dissolved" parts? Since the mina was composed of sixty shekels, the answer is thirty. In other words, thirty shekels composed each of the two "dissolved" parts of the mina. One can proceed from this to construct a set of integer relationships between the mina and its parts like that shown in table 2.

Table 2 exhausts the integer relationships between the mina and its parts, but eventually this led to the discovery of an elaborate system of "fractional" relationships. The discovery that two parts "dissolved" into thirty shekels each equaled one mina and, moreover, that this was replicable with other pairs of "reciprocals" permitted the recognition that any number could be "dissolved" into two parts simply by "carrying thirty" to it.

As an example, let us "dissolve" twenty shekels into two parts of ten shekels each. We first "carry 30 to 20." The result—600—was conceptualized in the Sumerian sexagesimal system as 10×60 units. But, one may ask, how did the

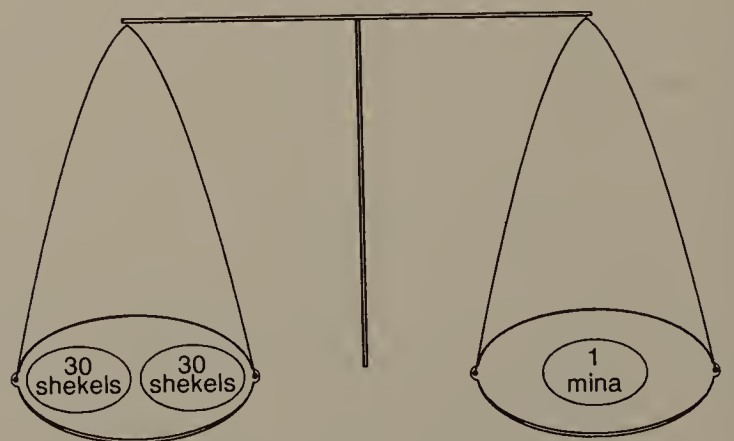


Fig. 9. "Dissolving" of 1 mina weight into 2 parts.

TABLE 2
 "Dissolving" the Mina to Form "Reciprocal" Relationships

2	parts	contain	30 shekels each
3	parts	contain	20 shekels each
4	parts	contain	15 shekels each
5	parts	contain	12 shekels each
6	parts	contain	10 shekels each
10	parts	contain	6 shekels each
12	parts	contain	5 shekels each
15	parts	contain	4 shekels each
20	parts	contain	3 shekels each
30	parts	contain	2 shekels each
60	parts	contain	1 shekel each

accountant know to interpret the 10×60 as ten shekels and not something else? Here we approach the key to the origin of "reciprocal" calculation: the 600 did, in fact, represent 10 shekels.

We have already seen that the mina (from Akkadian *mana*, "count" or "counter") was composed of sixty shekels. But the shekel itself was also broken up into sexagesimal parts, namely, 180 barleycorns. Use of 180 ($= 3 \times 60$)—instead of 60 barleycorns—reflects weight norms for the mina in the 460–540 gram range. By reckoning 10,800 real barleycorns to the mina—180 barleycorns per shekel times 60 shekels per mina—one was able to approximate the mass of this mina norm. To facilitate sexagesimal calculation, three barleycorns were grouped together to form a "little shekel," which was one-sixtieth of the real shekel. Thus, the 600 parts into which we "dissolved" each half of 20 shekels in fact represent 10×60 "little shekels." Since one "normal" shekel contained sixty "little shekels," it is immediately apparent that 600 "little shekels" are identical to 10 normal shekels.

In sum, calculation with "reciprocals" seems to have arisen out of a concrete mechanism for dealing with fractions, just as sexagesimal "place notation" arose out of a system of counters. Metrological terminology for fractions suggests that the basic system of reciprocal calculation is at least as old as the Fara (Shuruppak) period, and it seems certain that it was fully developed by the time of Naram-Sin of Akkad.

CREATION OF A PROTOMETRIC SYSTEM

The era of Naram-Sin was a pivotal one in the history of ancient Mesopotamia, and this is probably true for mathematics as well. With Naram-Sin we begin to encounter mention of a large capacity measure called the "king's GUR." This unit of calculation contained five smaller measures (BARIGAS), each of which was in turn composed of 60 liter-sized units (SILAS). This "king's GUR" replaced an older GUR that had been composed of four of the sixty-liter BARIGAS. This change is striking, because it meant conscious abandonment of the symmetry of four, a favorite feature of ancient systems of measurement. The result, however, was obviously considered worth the loss of symmetry, because it unified length, area, volume, capacity, and weight into one system that facilitated sexagesimal calculation by the creation of unitary ratios. The essence of the system is shown in figure 10.

From Naram-Sin's time on, the "king's GUR" rapidly replaced other systems, and distinct systems of measure for liquid and dry capacity also disappeared. The system of measures based on the "king's GUR" became standard in the Ur III period, and this is why we find it used for metrological calculation in Old Babylonian mathematical texts. The high proportion of unitary (one:one) relationships in this system argues

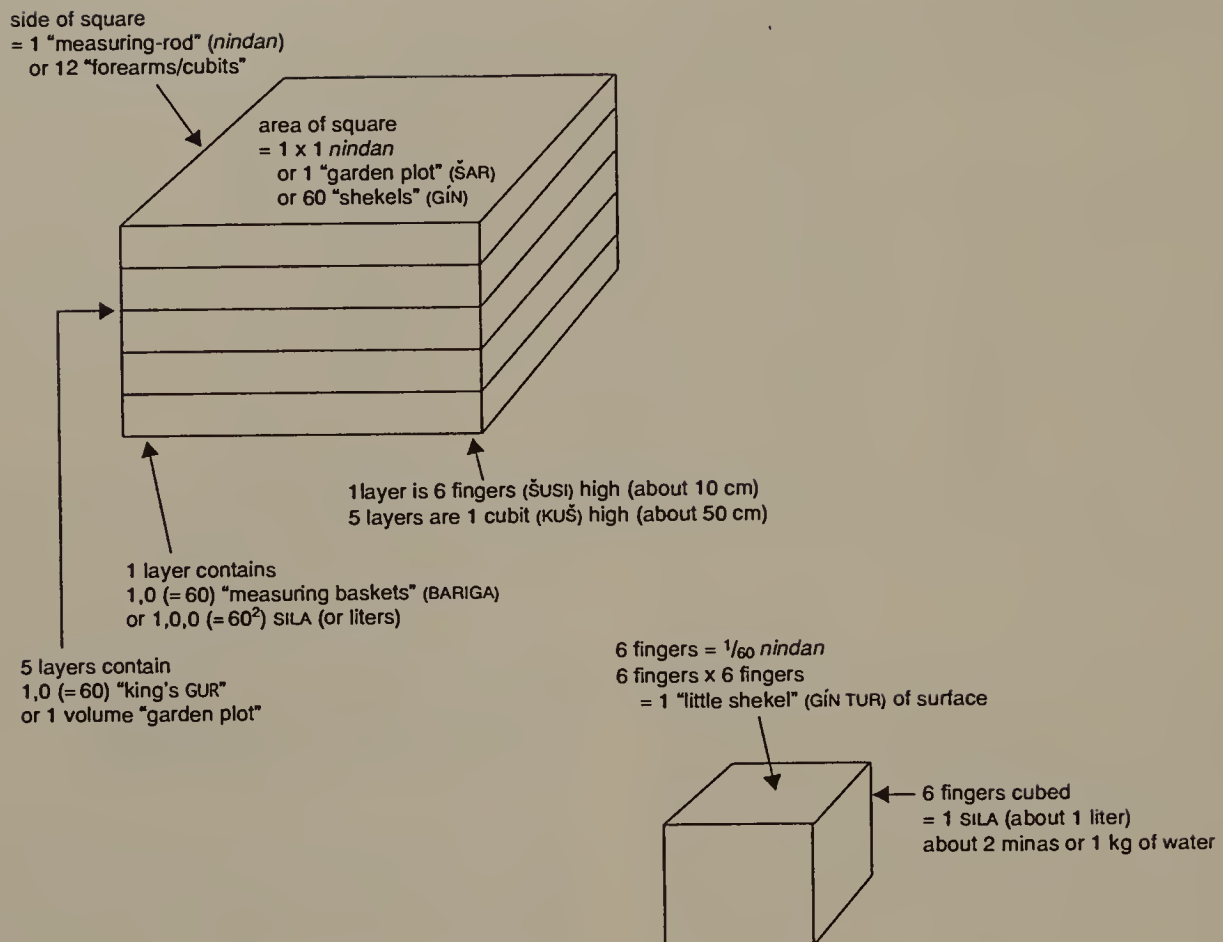


Fig. 10. Diagram of the Akkad-period protometric system.

strongly for a rationally planned reform under royal patronage. This facile "protometric" system is one of the more impressive achievements of the Mesopotamian adventure with number and measure but, like mathematical theory, there is not a word about either its origin or its purpose in cuneiform literature.

CONCLUSION

Science as a whole is rather poorly represented in cuneiform records. Most scientific knowledge was transmitted by oral tradition, which inhibited both its appearance in the written record and the exchange of scientific ideas. Furthermore, the social setting could hardly have promoted free exchange of ideas or critical thought. On the positive side, a "clean" science like mathematics—even with relatively inadequate sources—bespeaks a profound fascination with

number logic and considerable ability in manipulating numbers to solve a wide variety of mathematical problems. Finally, a consideration of the interaction between metrology and arithmetic has permitted a glimpse into what was at once the ancient world's most facile system of calculation and also what might fairly be called the world's first "metric system."

BIBLIOGRAPHY

Up-to-date overviews and bibliography for mathematics, metrology, and science through 1990 are in JÖRAN FRIBERG, "Mathematik," in *Reallexikon der Assyriologie*, edited by DIETZ O. EDZARD ET AL., vol. 7 (1990), a monographic treatment (in English) with excellent overview of sources and character of Mesopotamian mathematics; JENS HØYRUP, "Changing Trends in the

Metrology and Mathematics in Ancient Mesopotamia

Historiography of Mesopotamian Mathematics—an Insider's View," revised contribution to the congress "Contemporary Trends in the Historiography of Science," Corfu, May 27–June 1, 1991, in *Filosofi og videnskabsteori på Roskilde universitetscenter*, 3rd ser., Preprints og Reprints (1991), no. 3, a unique summary of the historiography of Mesopotamian mathematics since 1930, with perspicacious discussion of interpretations and citation of key publications; MARVIN A. POWELL, "Masse und Gewichte," in *Reallexikon der Assyriologie*, edited by DIETZ EDZARD et al., vol. 7 (1990), a basic monographic treatment (in English) of Mesopotamian weights and measures, and "La Science sumérienne," in the article "Sumer," in *Supplément au Dictionnaire de la Bible*, edited by JACQUES BRIEND ET AL. (forthcoming), an overview of Sumerian science with bibliography; and KAREN R. NEMET-NEJAT, *Cuneiform Mathematical Texts as a Reflection of Everyday Life in Mesopotamia* (1993), a good intro-

duction to applied mathematics with copious bibliography.

Also useful for orientation are RENÉ LABAT, "Mesopotamia," *Histoire générale des sciences*, edited by RENÉ TATON (1957), an overview of Mesopotamian science; MARTIN LEVEY, *Chemistry and Chemical Technology in Ancient Mesopotamia* (1959), a worthy but not wholly successful attempt to conjure up the remains of Mesopotamian chemistry; PETER R. S. MOOREY, *Materials and Manufacture in Ancient Mesopotamia. The Evidence of Archaeology and Art: Metals and Metalwork, Glazed Materials and Glass* (1985), an excellent collection of the kind of evidence necessary for a balanced history of Mesopotamian science; and JOACHIM OELSNER, "Vorderasiatische Mathematik und Astronomie," in *Geschichte des wissenschaftlichen Denkens im Altertum*, edited by FRITZ JÜRSS (1982), a competent overview with bibliographical references to other areas of Mesopotamian science.

SEE ALSO **Mathematics, Astronomy, and Calendars in Pharaonic Egypt** (Part 8, Vol. III) and **Astronomy and Calendars in Ancient Mesopotamia** (Part 8, Vol. III).

Theology and Worship in Elam and Achaemenid Iran

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ELAM

It is very difficult to say anything certain about Elamite religion. Elamite literature is not available and the Elamite language still poses many problems and uncertainties. We do not know anything about Elamite mythology. Our main sources of information are the building inscriptions of the kings and consecration texts. They can indicate which of the gods was important for certain kings and for their policy. Hints concerning the beliefs of the people can be given by all the personal names which are preserved (personal names often contain names of gods). But legal and administrative documents, which also contain many names, are preserved only sporadically. However, although there are many difficulties, it is still possible to gain an impression of the Elamite pantheon if one takes into consideration every occurrence of the gods' names and looks at all the scattered material as a whole.

The Elamites had close contacts with the inhabitants of Mesopotamia over hundreds of years, and for long periods they were ruled by the Akkadians. Elamite kings brought statues of gods back from Mesopotamia as booty. Akkadian and Babylonian princesses came to the Elamite

court as a result of diplomatic marriages. These are the reasons that several Sumerian and Akkadian gods were also worshiped by the Elamites.

Elamite Gods

The earliest attestations of Elamite gods go back to the middle of the third millennium BCE as components of the names of kings. Under the rule of King Lukh-khisshan of Awan, a contemporary of Sargon of Akkad (around 2334–2279), was mentioned a vice-king of Elam, Sanam-Simut. Thus, Simut is the first Elamite god to appear in history. It is striking that he in particular was called in later times “the god of Elam” (by King Shilkhak-Inshushinak I [around 1150–1120]). In another context he was addressed as “the powerful herald of the gods.” Simut was mentioned continuously over the centuries, especially in names of the old Elamite period (up to about the fifteenth century), but he never had an eminent status. His wife was the goddess Manzat. Her name has been taken as a loanword into Akkadian meaning “rainbow.” Like her husband's, her name occurred in several old Elamite personal names, some of them female. After 1050 she was no longer mentioned as such but rather as NIN-ali (or Bêlêt-âli, “Lady of the city”). One of her

possible functions was to protect pregnant women, because the votive offerings found in her temple in Dur-Untash (modern Chogha Zambil) show women holding up their breasts. In that case her main opponent would have been the terrifying Lamashtu, who was responsible for puerperal fever and infant mortality. In an incantation text from Uruk, Lamashtu is called "an Elamite." In Elam she functioned as guardian of the temple.

Successor to King Lukh-khishan was Khishep-ratep (about 2330), whose name means "the renowned nourishers." Originally, this must have been part of a much longer name, in which Khishep-ratep took the place of a god-name in similarly constructed personal names. Usually the personal names were constructed as such: "God X loves me" or "God X may protect me/him." When these sentences, used as personal names, became too long, they were shortened—and only the name of the god remained. The plural "p" ending points to a group of gods. And indeed there is known a group of gods for whom king Untash-Napirisha (around 1275–1240) more than a thousand years later built a temple in his holy city, Dur-Untash. They are called Nap-ratep, or "Nourishing Gods."

At the end of the twenty-third century, Eshba (or Eshbum), governor of Susa (biblical Shushan), consecrated a statue of his Akkadian overlord, Manishtushu (around 2269–2255), to the goddess Narunde. She is to be found only in old Elamite times. In Akkadian sources she is called "the sister of the seven demons." There existed two groups of demons, the evil and the good. The good demons were also named the "Seven Wise Men." Their sister was Narunde, who appears in incantation texts as resolved to fight against the evil demons. In most cases she seems to have been triumphant, for she became the goddess of victory. Her accompanying animal is the lion. A list of gods from Mesopotamia, called "An-Anum," mentions a group of "Seven Gods of Elam." Perhaps these are the seven good demons, brothers of Narunde. In Akkadian texts from Old Babylonian times onward, we also find a group of seven (?) "Great Gods of the Sky" called Igigi. This is a hypocoristicon (shortened name or one of endearment) to the Elamite word *igi*, "brother." Igigi also occurs as short name and as component of a theophoric name (com-

posed with name of a god) (*i-gi-gi-tu-ni-iš*, or "Given from [the God(s)] Igigi"). It is tempting to see in all of these terms the same group of gods and their origin is Elamite.

In sum, Simut, "the God of Elam," and the goddess of victory, Narunde, and two groups of gods, the "Renowned Nourishers" (Khishep-ratep) and the "Seven Wise Men" (Igigi), are the first Elamite gods who are traceable in history.

A treaty between the Elamite king Khita and Naram-Sin of Akkad (around 2254–2218) is the earliest document preserved in the Elamite language. At its beginning, thirty-seven gods are called to witness, in first place the goddess Pinengir and the "Divine Good of the Sky" (*dba-ha-ki-ki-ip*). Are these the "Great Gods of the Sky," the "Seven Gods of Elam," the "Seven Wise Men," the brothers of Narunde? It seems likely. Perhaps they can be traced also during the following centuries, when, for instance, King Khumban-numena (around 1300–1275) mentions the "Divine Benefactors" (*dba-ha-hu-ti-ip-pe*) or when King Adda-Khamiti-Inshushinak (around 653–648) cites the "Divine Good" (*dba-ha-ib-be*).

The fact that Pinengir is summoned first in the treaty between Khita and Naram-Sin has led to the assumption that she originally was the main goddess in the Elamite pantheon. Proofs even for an early Elamite matriarchy, perhaps reflecting in heaven the situation on earth, have been derived from that text alone. However, the existence of a heavenly matriarchy cannot be corroborated by other inscriptions. On the contrary it must be noted that, strangely, her name occurred so rarely. Extremely few personal names were composed with her name.

Not before middle Elamite times do we learn anything about her character. King Untash-Napirisha (circa 1275–1240 BCE) consecrated in his holy city, Dur-Untash, a temple for Pinengir, among others, and donated a golden statue to her. In addition he built an *aštam* for her. This is a loanword from Akkadian *ašammu* and means "inn." Such inns served beer, and they functioned as brothels as well. Like the Sumerian Inanna (Akkadian Ishtar), Pinengir was obviously responsible for love and sex life. And like the goddess Ishtar in Mesopotamia, she acquired motherly features during the second millennium, as is demonstrated by the many

terra-cottas with nursing mothers that have been found in her temple in Dur-Untash.

Toward the end of Elamite history, two kings in particular venerated Pinengir. Shutruk-Nakhhunte II (around 717–699) called her “Mistress of the Sky, my god,” and Tempt-Khumban-Inshushinak (around 668–653) also addressed her as “my god.” After that time she was no longer mentioned.

Another goddess, called Kiririsha, the “Great Lady,” is found in an old Elamite incantation text from Mesopotamia, as well as in personal names from the beginning of the second millennium. It has been suggested that at a certain time the name of Pinengir was put under a taboo and that from this time onward, she was called only “Great Lady.” However, this cannot be proven. It is also possible that Kiririsha was her cognomen or that it designated a different goddess right from the beginning. Kiririsha had special connections to the city of Liyan (modern Bushehr) on the Persian Gulf. Perhaps she was a local goddess who gained influence over all the Elamite country. At least in middle Elamite times she existed as an independent goddess beside Pinengir and had obviously acquired much more power than her rival. In the texts she is called “Mistress of the Sky,” “Mother of the Gods,” and “Great Consort.” Kiririsha seems to have been responsible for combat and battle, judging by the votive offerings that have been found in her temple in Dur-Untash, which are mostly battle-axes. Like Pinengir, Kiririsha disappeared in late Elamite times.

Next to Pinengir and the “Divine Good of the Sky” in the treaty with Naram-Sin, there follows the god Khumban. In the Akkadian incantation series *Šurpu*, Khumban is equated with Enlil, “Lord Wind,” the main god of the Sumerian pantheon. He rules over the atmosphere and can bring about disastrous storms against enemies. His father was An (Akkadian Anum), the “Sky,” originally the highest Sumerian god but replaced very early by his son Enlil.

In Elam the pattern was comparable. In *Šurpu* the god Yabru is called the “Anum of Elam.” His name is preserved only in a single place-name (*yà-ab-ru*^{KI}) and in one old Elamite–Akkadian personal name. Presumably he was a very old Elamite god thrust aside by his son Khumban. It might be that Yabru was hidden

behind the common expression Tempt, or “Lord,” which is found in many inscriptions. Tempt was used as a designation for various gods, for instance “a merciful Lord is god Khu-tran” or “Inshushinak, Lord of the High Town.” But on other occasions it seems to have been the name of a particular god. In such a usage it appeared very often in old Elamite personal names. The legal documents of Susa from the beginning of the second millennium, for instance, include seventy-eight personal names composed with Tempt. On the other hand, names with Khumban occur only three times, and those with Pinengir five times.

Tempt is the Elamite translation of Akkadian Bel. In Mesopotamia, Bēl also appeared as lord of different cities as well as a particular god. In late Kassite times he was often equated with Marduk, the city god of Babylon. The female counterpart was Bēltiya, “My Lady,” who in middle Elamite times was a distinct goddess in Elam, too.

A hint as to the function of Tempt is given in a rather late text, where he is said to let flourish water and earth. Therefore it is possible that the name of the old god Yabru, like those of Pinengir and Khumban, had once been taken under a taboo, and that subsequently he was called simply Tempt, the “Lord.” Since we know so little about this very old god, we cannot say who his consort was. It might have been the goddess of the earth, who is designated in the texts only with the Sumerogram KI, but whose Elamite name is *Murun*. As a recipient of offerings, she appeared only in Achaemenid times, and the Achaemenid sources described her in a context combined with the Median gods. But the existence of a mother goddess must be assumed for the earliest times. Possibly the function of the old mother goddess had devolved upon her daughter (?) Pinengir. The son of Yabru and KI, the mother goddess “Earth,” was very likely Khumban.

Khumban too appeared very early in Elamite history. It is possible that the name of the first known Elamite king, who must have ruled at the beginning of the third millennium, was derived from Khumban. He is mentioned in the *Epic of Gilgamesh* as Khuwawa. In later tradition he is called Khumbaba. Over the centuries Khumban occurred from time to time as a component of

personal names, but he rarely appeared in the inscriptions of the kings. As with most of the gods, a temple was dedicated to him by the middle Elamite king Untash-Napirisha in his holy city of Dur-Untash. He was next mentioned by Adda-Khamiti-Inshushinak. We find here a phenomenon comparable to what we have seen in connection with the goddess Pinengir. Both are old Elamite gods who initially were at the top of the pantheon but lost influence over time and regained only a portion of their original importance at the end of Elamite history.

There are also parallels from another point of view. At the same time as Kiririsha, a god Napirisha, or "Great God"—very often written ^dGAL—makes his debut. In *Šurpu* he is equated with Ea, or Enki, the "Lord of the Earth," the god of wisdom and incantations, who also sends the streams of sweet water out of the earth. Illustrations depict him with jets of water coming out of his shoulders. It is therefore also possible that the Elamite reliefs, like those in Kurangun and Naqsh-e Rostam, represent the Elamite equivalent of this god, namely Napirisha. It is not certain if Napirisha was originally a taboo-name for Khumban. We could assume a phenomenon parallel to the case of Pinengir-Kiririsha and, presumably, Yabru-Tempt. But Napirisha, too, must have very early been regarded as a separate god. The responsibility for the universe was divided between the two gods. While Khumban ruled over the upper regions of the air, Napirisha was the master of the earth. In the latter function, he rapidly grew in importance and superseded his rival, Khumban. During all periods he must have been a powerful god, and he was still worshiped in Achaemenid times. Napirisha and Kiririsha formed a couple. Temples were often devoted to both of them. In middle Elamite times they were closely connected with Inshushinak, with whom they constituted a triad, the most powerful gods of Elam at that time. The son of Napirisha and Kiririsha was Khutran. His name probably means "Overwhelmer," so he must have been a god of soldiers and fighters.

Let us return to the treaty with Naram-Sin. In the text of the contract, following the enumeration of gods called to witness, five gods are mentioned frequently, always in the same formula: "Nakkhunte loves the king, to Inshushinak he is subject, Siyashum, Napir(?), and Narunde the

king obeys." Obviously Nakkhunte was the favorite god of King Khita. Nakkhunte is also mentioned in one of the first places among the witnesses. Nakkhunte was the sun-god of Elam. He was equated with the Sumerian Utu and Akkadian Shamash and had the same functions, being, like them, responsible for law and justice. The sun-god was regularly called to witness and was guarantor of the observance of the judgment. In malediction formulas he was asked to refuse the evildoer any offspring.

In Mesopotamian mythology the sun-god was the son of the moon-god, Nanna (Sumerian), or Sin (Akkadian), and the brother of Inanna/Ishtar. He was also closely connected with both of them in his iconography. In Elam the moon-god was presumably Napir, or "the God." If this identification is correct, it would indicate that he once had a very high standing. He is also mentioned in the often-repeated formula of the treaty with Naram-Sin (though in all occurrences partly destroyed). Napir was a component of personal names across the centuries, but not very often. Writing with the logogram ^dEN.ZU occurred much more often.

We do not know much about the goddess Siyashum. She may have been the "Keeper of the Palace of the Gods." Besides having been named in the treaty with Naram-Sin, she was a component of two old Elamite personal names and had a temple dedicated to her by King Untash-Napirisha.

The most important god for King Khita seems to have been Inshushinak, to whom he was subject. And at the end of the treaty, he puts the entire agreement and the statue of Naram-Sin made for commemoration of the event under the protection of Inshushinak. So the importance of this god is apparent in the earliest document in the Elamite language. His name was derived from Nin-shushinak, "Lord of Susa," and so he was the city god of Susa. Therefore Susa must in very early times already have been an extraordinarily powerful city, since its god gained influence over the whole country. For all the Elamite kings as well as for the people, Inshushinak was the most important god. He occurred as a component of hundreds of personal names and was invoked by every king.

In the list of gods, or "An-Anum," he is equated with Ninurta. Ninurta was the city god

of Nippur (modern Nuffar) and was believed to be the eldest son of the god Enlil (who corresponded to Khumban). Ninurta was responsible for fertility and vegetation as well as for the waters abounding in fish. He caused the inundations in springtime that are necessary for an ample harvest. Therefore he was of highest importance for the farmers and was also called "Lord Plough." On the other hand, Ninurta was also leader in battle and a king. He was defender against enemies from without and judge regarding grievances within the country.

All these features fit Inshushinak, too. He had a great variety of functions. He was addressed not only as "Father of the Weak" but also as "King of the Gods." For the general public, Inshushinak was the most important god because he determined its welfare. From the royal perspective, he was guarantor of the king's reign because he fought the king's enemies and supported the king in his wars of conquest. Also, he safeguarded right and order within the country. In the legal documents from Susa from the first half of the second millennium, he was, with the sun-god, the first called to witness. Furthermore both were also responsible for the execution of the judge's decisions and for the protection of votive offerings and buildings.

In old Elamite times, Inshushinak and the sun-god (Nakkhunte, or Shamash) were often accompanied by Nergal. This Sumerian and Akkadian god was ruler of the underworld, meaning supreme lord of the deceased. He caused fever and epidemics and controlled the scorching heat of the sun that ostensibly caused reed fires. But he was also a great warrior. In Mesopotamian mythology Nergal was the brother of Ninurta, to whom Inshushinak has been equated. It seems that in Elam, Inshushinak rather early combined the functions of both brothers in his person. Thus Inshushinak's power, as lord of the underworld too, increased greatly. His symbol was the snake, the animal that, as offspring of the dark earth, demonstrates in a unique way the ambiguous, perplexing (and dangerous) nature of this god.

In middle Elamite texts, Inshushinak appears as judge of the deceased, accompanied by Ishme-karab and Lagamar. Both names are Akkadian, meaning "He Who Grants the Prayer" and "No Mercy," which indicates the disposi-

tion of each. Both occur as components of personal names. It is understandable that Ishme-karab was much more popular. In Dur-Untash he had a temple dedicated to him; it was side by side with Kiririsha and was given comparable votive offerings. In Assyria, Ishme-karab was one of the seven judges, but he was more important in Elam.

The power and importance of the god Inshushinak for all inhabitants of Elam, from the most humble up to the king, is quite clear from the earliest times onward. So it is a striking fact that he disappeared completely in Achaemenid times. It is understandable, however, since as protector against enemies from outside, he had failed. Babylonians and, above all, the Persians, had gotten the upper hand, and the Elamites had become subjects of foreigners. Thus with the decline of the Elamite kingdom, Inshushinak lost all of his influence. In this situation the old god Khumban was able to regain some of his original power, though he had to share his place with the Babylonian weather-god Adad.

Aside from these major gods, there were a great many lower gods who are mentioned only rarely. Among them the god of the river ordeal, Shazi, had a certain importance. His role was passing sentence. He who committed a breach of contract had to go into the waters: "May the god Shazi smash his skull!" In Akkadian sources (often legal documents) Shazi was said to be the son of the river god, but we do not know his name in Elamite.

In surviving texts, the goddess Mashti is once addressed as "Good Mother of the Gods." Mashti has been compared with DIL.BAD, the "Venus Star," but it is more probable that the latter was Narsina in Elamite. King Untash-Napirisha built a temple for Rukhu-rater and Hish-mitek. Rukhu-rater, the "Nourisher of the Legal Offspring," was presumably the same god mentioned in *Šurpu* as Lakhuratil. There he is equated with Ninurta. But Ninurta corresponded otherwise to Inshushinak, as we have seen. Therefore Rukhu-rater may have been a local god with similar functions. Khish-mitek is otherwise unknown. That is also the case with the god Tirutir, or Tirumitir. The deities Upurkubak and Khaterishni formed a couple. Upurkubak is in one text called the "Mistress of the Way of the Nobles." Her partner's name has been

found only recently; it may be translated as "His Love May Become Great."

In addition to the gods, the mythological world of ancient Elam must have been populated by many fabulous creatures, many of them hybrids, half man and half animal. We learn about them only from illustrations, above all on seals. There they are working in the fields or appear as "Masters of Animals" or alternate in their appearance on seals as either subduers of other animals or victims of them. In most cases they behave like men, but in others they function as animals on whose back a god is riding.

A great many gods are known only as components of personal names. We can only hope that future research will throw more light on the fascinating world of Elamite gods.

Priests and Cult in Elam

The primary administrator of the gods on earth was in all periods the king. He was the leading hunter, the first in battle, and the highest priest. In the time of the *sukkalmakhs*, at the beginning of the second millennium, the kings obviously were themselves regarded as divine. (See "Susa and Susiana in Second-Millennium Iran" in Part 5, Vol. II, for further discussion.) We find several names of kings written with the DINGIR-sign that is otherwise the determinative for the names of the gods.

Next below the king was a high priest. We know only his Akkadian title, *pašišu rabû*. It was his duty always to accompany the king, even on his campaigns.

A common priest was called *šatin*. As we can see from early representations, the priests performed the divine services naked. Sometimes they wore long hair, or perhaps wigs; otherwise they had high crowns with horns on their heads. We also meet with priestesses. It appears that their position was quite equal to that of their male colleagues. They sold houses, rented fields, and loaned money that must have been their own. One priestess transferred a certain amount of silver to her nurse. In legal transactions priestesses acted as witnesses. The girls in the "inns" of Pinengir presumably were regarded as priestesses, too. The income of those establishments went to the goddess. The gods and goddesses usually owned large properties. For instance Inshushinak, Shamash, Simut, and

the goddess Upurkubak were landowners who leased their fields and rented grain for their fields' cultivation. ("Renting grain" meant that a certain amount of seed grain was handed over; it had to be paid back with a fixed multiple amount.) They also functioned like savings banks and loaned money. The sun-god seems to have been particularly active in this domain. Thus the priests were not only responsible for their religious duties but also had to be skilled managers of property and funds.

A sculptured bronze plate, dedicated by King Shilkhak-Inshushinak in the latter half of the twelfth century, depicts a ceremony called *šīt šamši*, the Akkadian expression for "rising of the sun." In the middle of the plate squat two priests without clothing. One of them is about to pour water over the hands of the other as they perform the purification ceremonies at the beginning of the day. The water may have been taken from the ewer that is standing beside them together with two basins. A table for the offerings is to be seen between two columns. On both sides of the priests are temples. In front of the smaller one extends a holy grove.

High temples were built in the main cities. Usually they were stepped, one block upon the other, the so-called ziggurats. We know them from archaeological excavations—at, for instance, Dur-Untash—and from many illustrations on seals and reliefs. Often they are adorned with large horns. As we learn from the consecration inscriptions, the horns were made of wood or alabaster and were often gilded. Gold was used in abundance. Not only were golden statues set before the gods, but doors, beams, and bricks were gilded. Adding further visual richness, the luster of the gold was combined with bright colors. We get an impression of the play of colors from the many glass rods that once adorned the doors of the temples.

Much more common than the brick-built temples must have been the holy groves. They are mentioned frequently in the texts. The holy precinct was fenced in, and an altar formed the cult center. Several altars or offering tables that have been found had drains for the blood of the victims. Obviously blood offerings were a major element of the Elamite cult. The kings instituted periodic offerings. For instance King Kutik-Inshushinak (around 2250) promised the

god Inshushinak for his temple in Susa each day one ram at the high sanctuary, one ram at the lower sanctuary, singers in the morning and evening, twenty measures of oil to anoint the door, and silver and gold. (Apparently there was more, but here the text breaks off.)

In addition to these regular offerings, the great feasts were of special interest to all the people. The most important of those feasts must have been the *gušum*, which was dedicated to the "Lady of the High City." We are not sure who this lady was. Presumably the feast was a very old tradition and originally may have been established for the old mother goddess. Then it may have been passed to Pirengir and afterward to Kiririsha. At least in middle Elamite times, it is most likely that the offerings were intended for this last goddess. Adult fattened rams were slaughtered in a certain ritual manner and obviously in large numbers because the feast was also called "Feast of the Pouring Offerings." Streams of blood must have flowed down from the altars. This feast always took place at the new moon at the beginning of autumn. In the early period, this was at the beginning of the new year. After the official sacrifices, there must have been a public festival with singers and music. The meat of the victims was roasted, and everyone received a piece of it.

Music was always part of the Elamite cult. We have mentioned already the singers who attended the daily offerings at the temples, and a seal impression illustrating a religious procession depicts musicians with harp, lyre, and flute accompanying the image of a god.

A characteristically Elamite phenomenon was the *kiden*. Every god had his own *kiden*, his special charisma, a boundary of magical protection. This numinous phenomenon found its objective expression in a taboo-emblem. Among its uses was the touching of evildoers with this emblem before they were executed. In many cases they died at the very moment of contact with the emblem as a result of their emotional response. In a wider sense, the *kiden* was also the room in which the taboo-emblem was kept. There witnesses were led before they were asked to take an oath. In most cases it was the *kiden* of Inshushinak, but that of Simut is also mentioned, as well as those of less well known gods such as Rukhu-rater or Kubuzzi. The Elam-

ites believed that a man must die if a god removed from him his protective *kiden*.

ACHAEMENID IRAN

The main source for Iranian theology is the *Avesta*, the songs of the Zoroastrian priests. Its oldest part was formed by the *gāthās*, which are ascribed to the prophet Zarathustra himself. He taught that there is only one god, Ahura Mazda, the "Wise Lord." But, he warned, everyone must beware of the "Lie" or the "Servant of the Lie." Every human being should aspire to come into the eternal kingdom of god, he taught. On the way a person is supported by three archangels: Vohu Manah, the "Good Mind"; Rtam, the "Right Order"; and Armaiti, the "Devotion."

Opinions about the religion of the Achaemenids are still quite divided. The main question is whether they were followers of the prophet Zarathustra. Until now our sole sources on this matter have been the Greek historians, above all Herodotus, who lived in the fifth century at the edge of the Achaemenid empire. The inscriptions of the Achaemenid kings provide some hints about the beliefs of the rulers. From them we learn that for Darius and his successors, Ahura Mazda, the "Wise Lord," the god of Zarathustra, was the highest of gods. (See "Darius I and the Persian Empire" in Part 5, Vol. II.)

In 1933–1934, during the excavations of the Oriental Institute of the University of Chicago in Persepolis, the capital of the Persian Empire, Ernst Herzfeld found an administrative archive of nearly thirty thousand clay tablets. Six thousand of them are more or less well preserved, but little more than two thousand have so far been published. These tablets are from the reign of Darius I ("the Great") (522–486). They are written in Elamite and constitute administrative vouchers from the heartland of Persia, including the Elamite district (later Elymais) up to the borders of Susa. This new material provides information not only about the economy and administration, but also about the daily life of the inhabitants and their religious environment. Thus with the help of these original sources, we are able to make much more precise statements about theology and cult in Achaemenid Iran than previously.

The Prophet Zarathustra (Zoroaster)

The exact years of the prophet Zarathustra are still unknown, but he appears to have been active about 600 BCE in Bactria (Bactriana), eastern Iran. He lived among the Iranian nomads and their princely leaders, who appear in his songs, the *gāthās*. Zarathustra became a priest and began to teach that there was only one god, Ahura Mazda, the "Wise Lord." Therefore the magicians, the priests of the old Iranian gods, were his greatest enemies.

Ahura Mazda is closely connected with a high personality called "Holy Ghost" or his "Son," who was responsible for the "Right Order" in heaven and on earth. The son is also the judge of the Last Judgment, when the deceased must pass the bridge of decision

and either enter paradise or fall down into hell. From this it is apparent that the teachings of Zarathustra contain many "Christian" beliefs—six hundred years before Jesus was born.

Under the reign of the Achaemenid kings Cyrus "the Great" (559–530 BCE) and Darius I ("the Great") (522–486 BCE), Zoroastrianism became the state religion of Persia. However, before long the evolution of belief had brought about the reappearance of the old Iranian gods. By the time of the Sasanian dynasty (third–seventh centuries CE), whose rulers called themselves Zoroastrians, the religion had altered in many fundamental respects.

State Religion

Some of the tablets are concerned with expenses for offerings. In this context several gods are mentioned, various kinds of offerings are found, and priests with Elamite as well as Iranian titles are cited. At first glimpse the impression (different names of gods and unknown terms) is quite confusing, but one term, (^d*lan*), recurs very often. The DINGIR-sign (^d) indicates that the term is divine. Originally the Elamite word *lan* meant "divine presence," in the figurative sense of "religious cult" or in the concrete sense of "sacrifice." The tablets never say to whom the sacrifice was given. Obviously it was well known to every inhabitant of the Persian Empire and so did not need any explanation. In divine lists the *lan* has the same status as the names of gods. Therefore it is most probable that this special offering was addressed to a particular god.

The *lan*-sacrifice was the only one for which regular rations were expended every month. The amount of the rations differed from town to town, presumably depending upon the importance of the temple or the size of the community. Most common are thirty liters (27 quarts) of grain or flour and ten liters (10.6 quarts) of wine per month. That would be a daily amount of offerings of one liter (1.06 quarts) of flour and one-third liter (0.35 quarts) of wine. In some cases fruits are mentioned instead of wine. On several tablets the expenses for the *lan*-sacrifice are

called "rations of the king." This term occurs only in connection with the special cult offering. Thus the king himself arranged the regular carrying out of this principal sacrifice. Therefore we can conclude that it must have been the sacrifice for Ahura Mazda, the "Wise Lord," because he is the only god emphasized (the one who gave the king his power) in all the inscriptions of King Darius.

The celebration of the *lan*-sacrifice took place over all the heartland of Persia. The *lan* was celebrated in the vicinity of the large cities of Persepolis and Shiraz and to the southeast, southwest, and northeast of Persepolis. Moving from Persepolis westward toward Elam, it was found with decreasing frequency. But in the borderland and between Persia and Elymais, great festivals for certain gods were held, apparently once a year. These festivals, which occurred only in that region, must have had their roots in local traditions. In the Elamite district of Elymais, the *lan* was found only in two places in the border region. Otherwise there is no mention of this special offering. This fact shows clearly that in Achaemenid times, the *lan* was no longer a general expression for sacrifice but a particular offering. And this sacrifice cannot have been dedicated to an Elamite god, because the sacrifice obviously was extremely rare in that region, where Elamites lived as the majority of inhabitants.

The Priests

Various titles for priests are attested in the texts. First there is the old Elamite word *šatin*. Priests with this designation were above all responsible for Elamite and Babylonian gods, though they also worshiped Iranian gods. The second and most common title was *maguš*, the "magician." These Median priests venerated Iranian gods but never Elamite or Babylonian deities. In addition they could sometimes be called *framazdā*, or "outstanding memorizer," which was an honorary title. It occurs only three times in the texts that have been found, and in those cases, it was in connection with old Iranian gods. Several times a magician is called *lan-lirira*, "Celebrator of the *lan*-sacrifice." In such cases he was also responsible for the *lan*. That the administration thought it necessary to emphasize this duty shows clearly that originally the magicians had quite different responsibilities.

The fact that they sometimes also were given the title *ātrvaxša* points in the same direction. This third title, meaning "He Who Lets the Fire Grow," is purely Zoroastrian. A priest bearing only this title was responsible just for the *lan*-sacrifice, which is further proof that this offering must have been for Ahura Mazda. The use of the titles "magician" and *ātrvaxša* side by side for one and the same person indicates that they originally represented different cults. In the time of Darius I, considerations of religious policy obviously induced the magicians to adapt themselves to the Zoroastrian religion by including it in their program. In this early period, however, they could not reach the high position of the purely Zoroastrian priests who functioned also as inspectors in the administration and were called, for instance, to attest the correctness of accounts.

If one takes into consideration all the facts cited, it becomes quite clear that the *lan*-sacrifice was the most important element of the official religion. And it is rather certain that this was the state sacrifice for the god Ahura Mazda, the "Wise Lord." The religious policy of the Achaemenids tolerated several other gods, and they too received offerings from the state. Yet the influence of these gods was of only local importance. To point out the differences of the above-mentioned gods from the official state reli-

gion represented by the *lan*-sacrifice, we will take a closer look at these gods.

Iranian Gods

The Visai Baga Most often mentioned in the administrative tablets from Persepolis is the Visai Baga, a group of gods whose name means "All Gods." They appear as early as the Indian songs of the *Rigveda*, where they are called Vishve Devah, which has the same meaning. In the doctrine of Zarathustra, the Devah were regarded as evil demons, and the gods were now called *bagā*. A memory of this group of gods may have survived among the people. Thus the old group reappeared with a new name, *bagā* instead of *devāh*, and was worshiped once more. Perhaps Darius referred to this special group when he says in his inscription, "Ahura Mazda with all the gods." Though the Visai Baga are the most frequently mentioned old gods, in comparison to the *lan* their occurrence is very rare. The tradition of venerating them was preserved in only one region, as they received offerings in eight places in the district situated west and southwest of Persepolis.

Several scholars have proposed to read not Visai Baga but Mica Baga, meaning "God Mithra." But such a reading is excluded by the Elamite writing. Thus there is no proof that Mithra received any offerings during the reign of Darius. Mithra, who was originally the god of "contract," the literal meaning of his name, later became, as sun-god and victorious god of war, the most favored god in the Indo-Aryan world. His worshipers arranged festivals in dark caves at night, during which they slaughtered bulls and became drunk with *hauma*. This intoxicating drink was made from dried mushrooms; it did not lose its effect until it had passed up to eight or nine times through the human body.

The female counterpart of Mithra was Anahita, the goddess of love and fertility. Zarathustra fought a fierce battle against both of them, and the fact that they did not receive any offerings under the reign of Darius demonstrates that they were outlawed in Darius's time, quite in keeping with Zarathustra's doctrine. Both would regain their former power only after some time had passed, reappearing in the inscriptions of King Artaxerxes II (405–359).

Zurvan, Hvarira, and Naryasanga The old Median god Zurvan appears in the later *Avesta* (texts from late medieval times) as god of infinite time and as father of Ahura Mazda and his evil counterpart, Ahriman. On the tablets from Persepolis he occurs only in connection with three places that lay close to each other. In the same villages, the Visai Baga were also worshiped. And in two places of the same region, offerings were made to Hvarira, the "Genius of Sunrise." In two others we find the veneration of Naryasanga who in the *Avesta* is called the "Messenger of the Gods." The area in which these gods were venerated lay west and southwest of Persepolis, which must have been a stronghold of the old Median gods.

Mountains and Rivers In the same district, mountains and rivers were worshiped as gods. There is no trace of this practice in any other region of the Persian heartland. The reason must be sought in geographical circumstances. In the area in question, southwest of Persepolis, are extremely high mountains and many important rivers. In some instances the same mountain received offerings in two or three villages, so it can be assumed that they must all have been situated in the neighborhood of the mountain. Places in which the same river was worshiped may have been situated farther from each other, but in any case on the same river. The names of the mountains and rivers regarded as gods sound Iranian. Therefore this veneration of conspicuous natural phenomena must have been an old Iranian tradition, but it obviously had survived only in this limited area.

Miždushish, Brtakāmya, and Thaigracish In addition to the Iranian gods mentioned above, only a few additional, and even more poorly attested, gods occurred in the adjacent district to the north. In two places on the Persian highway leading from Persepolis to Susa, just before it reached the border of the Elamite region, we meet the goddess of fate, Miždushish. She was responsible for the welfare of the human beings, and it is therefore astonishing that we do not find her more often. But by Darius's time, all the functions of the old Iranian gods had presumably been concentrated in the one god, Ahura Mazda,

as a result of the teaching of Zarathustra. In one case the goddess Miždushish was celebrated together with the third month, Thaigracish. This name can be translated "(the Month) of the Gathering of Garlic." The fact that the month was also worshiped suggests that other personifications existed too. Indeed names of months were sometimes attested with the DINGIR-sign.

In two other places, the god Brtakāmya, the "Fulfiller of Wishes," is mentioned. But the few old Iranian gods who were to be found here received not regular rations but only cereals, wine, and fruits for a special festival, perhaps held only once a year. Thus we can state that Median or common Iranian gods were still worshiped in Achaemenid times. They received official rations for their offerings, but they were very few in number and restricted to small areas.

Elamite and Babylonian Gods

Because of the Persian king's tolerance, Elamite and Babylonian gods received rations for offerings, too. However, they were venerated only by the Elamites. Therefore they were found mainly in the Elymais and in some isolated places in the Persian heartland. (We should bear in mind that Elamites lived all over the country.)

The old Elamite god Khumban, who was responsible for the atmosphere and for storms, appeared side by side, or with the same amount of offerings, with the Babylonian weather-god Adad. In several places they were worshiped together. On some tablets it is stated that the offerings are destined "for the gods." In one case "the gods" are described as Khumban and Adad. Therefore one can perhaps assume that the scribes always thought of these two when they wrote "for the gods" in an Elamite context. Outside of the Elymaen region, Khumban was worshiped in some places in the Elamite-Persian border region, where he was the only Elamite god receiving sacrifices. He also was associated with just one village in the district southeast of Persepolis. In another place in the same district, the sole appearance of Adad outside of the Elymais is attested. Together with him is mentioned a god Napazapa, who is otherwise unknown but whose name sounds Elamite. Napirisha, the "Great God," rival of Khumban, was venerated in three places in the Elymais and in four places

in the district southwest of Persepolis, which must have been an enclave of his worshipers. A number of other Elamite gods, who cannot be identified, also appeared in a handful of places. Some of them seem to have been responsible for abundance of water and fertility.

Of the highest importance for the Elamites in Achaemenid times must have been the special sacrifice called *kušukum*, in which rams were slaughtered. It may have had its origin in the old Elamite *gušum*, which was celebrated for the "Lady of the High City." As we have learned above, the most important element of this festival, too, was the sacrifice of rams. Yet here, we find a decisive difference. As a general rule, the Achaemenid administration never dispensed animals for offering purposes, only grain or flour, wine or beer, or fruits. However, the slaughter of the rams was obviously very important for the Elamites in celebrating their *kušukum*. Therefore in all known cases where victims were needed, the Elamite priests saved the grain that they had received from the state and bought rams with it. This practice clearly shows that the sacrifice of animals was not intended by the administration.

Outside the Elamites the *kušukum* is mentioned only once, and there the priest received nothing but wine.

Summary

On the basis of the Elamite clay tablets from the archive of Darius I in Persepolis, some fundamental questions of Achaemenid religion can be elucidated. On the one hand, there clearly was a state religion that found its expression in the *lan*-sacrifice. This was the official offering for the god Ahura Mazda, which was arranged by the king himself. The *lan*-sacrifice was the one that occurred most frequently and was the only one celebrated regularly. It was practiced throughout the Persian heartland but occurred at only two places in the Elymais. Aside from the *lan*-offering, some old Iranian, and above all Median, gods were also worshiped, but their influence was restricted to small areas where

they obviously represented remnants of local traditions.

The state distributed offerings for all of them, as well as for Elamite or Babylonian gods, the veneration of whom was centered in the district of Elymais. But while there was considerable religious tolerance, certain basic principles had to be observed. Only grain or flour, wine or beer, or fruits were dispensed, never animals for offering purposes. Thus we can say that, judging by the sources currently available to us, the early Achaemenids must have been followers of the faith taught by Zarathustra and that sacrifices of animals did not comport with their beliefs. In this context, a god such as the bull-killing Mithra was not worthy of worship.

BIBLIOGRAPHY

WALTHER HINZ, *Lost World of Elam: Re-Creation of a Vanished Civilization*, translated by JENNIFER BARNES (1972), "Religion in Ancient Elam," in *The Cambridge Ancient History*, vol. 1, pt. 2, *Early History of the Middle East* (3rd ed. 1971), and *Darius und die Perser*, vols. 1 (1976) and 2 (1979); WALTER HINZ and HEIDEMARIE KOCH, *Elamisches Wörterbuch*, vols. 1 and 2, *Archäologische Mitteilungen aus Iran, Ergänzungsband 17* (1987); STANLEY INSLER, trans., *The Gāthās of Zarathustra*, *Acta Iranica* 8 (1975); HEIDEMARIE KOCH, *Die religiösen Verhältnisse der Dareioszeit: Untersuchungen an Hand der elamischen Persepolistäfelchen*, *Göttinger Orientforschungen III. Reihe: Iranica*, Bd. 4 (1977), "Götter und ihre Verehrung im achämenidischen Persien," *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 77, no. 2 (1987), *Verwaltung und Wirtschaft im persischen Kernland zur Zeit der Achämeniden*, *Beih. zum Tübinger Atlas des Vorderen Orients, Reihe B Nr. 89* (1990), "Zu Religion und Kulte im persischen Kernland," in *La Religion iranienne à l'époque achéménide: Actes du Colloque de Liège 11 décembre 1987*, edited by JEAN KELLENS (1991); and *Es kündigt Dareios der König . . . Vom Leben im persischen Grossreich, Kulturgeschichte der Antiken Welt*, Bd. 55 (1992); and URSULA SEIDL, *Die elamischen Felsreliefs von Kuran-gun und Naqš-e Rostam*, *Iranische Denkmäler, Lieferung 12, Reihe 4, Iranische Felsreliefs* (1986).

SEE ALSO *Theology, Priests, and Worship in Ancient Egypt* (Part 8, Vol. III); *Theologies, Priests, and Worship in Ancient Mesopotamia* (Part 8, Vol. III); and *Theology, Priests, and Worship in Hittite Anatolia* (Part 8, Vol. III).

From Hittite Mythology: The Kumarbi Cycle

RENÉ LEBRUN

THE GOD KUMARBI was a central figure of a series of mythological tales, written for the most part in the Hittite language, that have been found in the ruins of Khattusha (modern Boğazköy), the capital of the Hittite Empire. The texts originally developed in the Syrian Hurrian culture, and later they were translated and adapted to the Anatolian Hittite world following the gradual Hurrianization of the well-to-do classes at the capital.

Kumarbi, often described in the texts as “king of the gods,” was authentically Hurrian, as was Teshub, the storm god. His holy city was Urkish in upper Mesopotamia, east of the Tigris, where a Hurrian inscription datable to around 2100 BCE has been found. As has been observed by Maurice Vieyra, the elevation of Kumarbi to the title “king of the gods,” succeeding other gods in a Sumero-Babylonian sequence, illustrates a theological reinterpretation provoked by the Hurrian preponderance in upper Mesopotamia and ultimately, in Syria, where Kumarbi was assimilated to Dagan (biblical Dagon). Kumarbi is well attested at Mari (Tell Hariri), Nuzi (Nuzu, modern Yorghun Tepe), Ugarit (Ras Shamra), Emar (Meskene), and Khattusha, although his place in Hurrianized Syria is difficult to define or assess. The Hittites were susceptible to syncretistic movements; depending on the theological school making the connection, Kumarbi was assimilated to the Canaanite El (from which he was nonetheless often distinguished), to the Mesopotamian Enlil (the result of an earlier equating of Enlil with Dagan), and to Dagan, the great

Syrian god symbolizing wheat. Introduced into Anatolia, Kumarbi was interchangeable with the goddess Khalki, meaning “grain” (Sumerian ^dNISABA). In Hittite religion he was thus not placed at the peak of the divine hierarchy; rather, he remained a foreign god, imagined eventually to have been conquered by the storm-god, the great god of the Hittites. It is generally agreed that a reference to Kumarbi can be found in relief 40 of the rock sanctuary of Yazılıkaya created near the Hittite capital by King Tudkhaliya IV, where the Hurrianized imperial pantheon is represented. Kumarbi figures here in a respectable position after Tashmishu, brother of Teshub, and just before Ea. In the festival rituals of the thirteenth century (often highly Hurrianized), Kumarbi was sometimes inserted after the group of storm-gods. However, in the god lists appearing in treaties earlier than the thirteenth century, when the Hurrianization of religion was less pronounced, Kumarbi is relegated to the end of the list, in the company of Sumero-Babylonian gods or after ancestral gods (Anunnaki). There must also have been a link established between Kumarbi and the netherworld. Kumarbi worship seems to have still existed at the beginning of the first millennium if it is admitted, following J. D. Hawkins, that the (DEUS) BONUS *Ku-pá + r-ma-sa*₅ of the inscription of Til Barsip (Tell Aḥmar, I 1:2) constitutes a late and deformed Luwian form of Kumarbi. Quite rightly, several scholars have also compared Kumarbi with the Greek god Kronos, and the agrarian character of the Hurrian god has

reinforced this comparison. It is thus legitimate to go back to the Hurro-Hittite Kumarbi to grasp the nature of Kronos, who was worshiped notably in the Greco-Asiatic era in various places of southern Anatolia, for example at Tlos.

KUMARBI AND HURRIAN MYTHOLOGY

The mythological texts discovered at Boğazköy can be divided into those that record a pure Anatolian mythology, inherited from the ancient traditions of the region, and those that are translations of foreign mythology. The structure of the foreign texts was originally set by mythographer-theologians of Syria who amalgamated Mesopotamian mythic traditions in Hurrian with Canaanite influences. By way of Kizzuwatna, this mythology eventually reached the Hittite capital. It is also possible that already in the Old Kingdom, after their Syrian conquests, the Hittites carried back to Khattusha from Aleppo (ancient Halab) or Ebla (Tell Mardikh) a number of texts that were the object of later reworkings, themselves often recopied in the thirteenth century BCE. In some of these texts, Kumarbi plays an important role.

The purely Anatolian mythological texts correspond with the great feasts honoring the god to whom they were linked: Telipinu, the storm-god, the sun-god, or a god protective of the wilderness. The tales were integrated into a ritual intended to attract the god and to remind him of the necessity of renewing, for example for the coming year, the benevolence he displayed in mythic times.

The foreign mythological texts, on the other hand, are songs and poems that were recited independently of ritual or festival activities. Their recitation had as a goal to entertain and, more so, to educate. They are, in fact, rich in the theological instruction needed for the Hittites to better comprehend the personalities of the gods and the organization of a pantheon that was growing more and more complex. However, we must not lose sight of the fact that mythology does not always directly reflect religion as it was practiced by the Hittites. The high place occupied by a god in a mythological tale does not at

all mean that people accorded him an equivalent rank in religious life.

KUMARBI TEXTS

The bulk of the surviving texts involving Kumarbi (that is, the Kumarbi Cycle) are three long tales of which we have important fragments: *The Theogony* (or *Heavenly Kingship*), doubtless the most famous tale and the richest one from the point of view of theology; *The Song of Ullikummi*, an epic poem recounting the wrath of Kumarbi against Teshub and all the celestial gods when Kumarbi created a stone monster to rival Teshub; and *The Myth of Khedammu*, a poem that is a variant of the *Song of Ullikummi* except that the monster is a dragon. Each of these three texts are discussed below, followed by a section describing minor texts that also mention Kumarbi.

The Theogony (or Heavenly Kingship)

This fine mythic tale is part of a set of at least six "songs" relating in the epic mode the divine battles to seize power in heaven. It could just as well be called "The Rise of the Storm-God." It is perhaps the best-known Hittite myth among modern religious historians because the succession to divine kingship recalls Hesiod's *Theogony*, which might have been inspired by the Hittite text, however difficult it may be to explain the continuity between the two. (We do note that Hesiod's father emigrated from Aeolic Kyme in Anatolia.)

The myth is known to us from a thirteenth-century Hittite version reproducing an older but damaged model, itself dependent on a Hurrian redaction. The colophon sparkles in its precision: "First tablet of the song [of ?]. Written by Ashkhapa [son of Khan]titasshu, grandson of Kuruntalaman, <great>-grandson of Warshiya, pupil of Ziti. This tablet was damaged and I, Ashkhapa, copied it in the presence of Ziti." Before presenting and analyzing the tale, however, it is worthwhile to note two essential points.

First, the origin of the tale, like that of the others analyzed in this section, is not Anatolian; it emerged, rather, from a cultural koine that was

particularly in vogue in the scribal schools of Syria in the second millennium and was exported to southeast Anatolia and then to Khat-tusha. Involved in the tale are Sumerian, Babylonian, and Hurrian gods. Its geographic locale is sometimes Mesopotamian, sometimes Hurro-Syrian. The idea of the succession of divine generations and the concept of ancient gods (gods dethroned from heaven and then relegated to the netherworld, where they exercise diminished authority) are Mesopotamian in origin. These syncretistic tales were the fruit of the thought of several Hurrian theologian-scribes.

Second, the myth had educational value, notably for the Hittites. Having the same function as the *Iliad* had for the Greeks and the Book of Genesis has in Western culture, the Hurrian myths offered the Hittites a basic religious framework and defined the function as well as the kinship of certain gods; at the same time, they gave explanatory shape for the hierarchy among the gods. In the case of the *Theogony*, it above all offered a sort of cultural and religious credo regarding the origin and precedence of the Hurro-Hittite storm-god Teshub (Tarkhunt). The *Theogony* also provided the basis for the composition of other mythic tales that became a logical continuation of it divided into several episodes.

The *Theogony*, whose surviving copy is damaged near the beginning of the text, makes a solemn appeal, an invitation to the ancient gods (Hittite *karuilesh shiunesh*) to listen to the story. This invitation in a way guaranteed the story's veracity, since the ancient gods were, in light of their distant origin, the only beings capable of knowing and authenticating the evolution of the divine world from the most distant times.

Following the invitation, the tale proper begins with the narration of the succession of four gods on the heavenly throne, with each reign lasting nine years. The atmosphere of the heavenly court, sketched briefly in a few strokes, was inspired by that prevailing in the palaces of the ancient Near East; each divine king is at first served and then dethroned by his vizier, a theme familiar in Mesopotamian literature (for example, the king of Kish is dethroned by Sargon). The sequence of gods is as follows: Alalu, Anu, Kumarbi, Teshub. The following text describes Alalu's reign and his deposition by Anu:

Formerly, in ancient times, Alalu was king in heaven. Alalu occupies the throne and the powerful Anu, the first among the gods, stands before him; he prostrates himself at his feet and places in his hands the drinking vessels. Alalu reigned in heaven for nine full years; the ninth year, Anu joined battle with Alalu and vanquished him. He (Alalu) fled before him and descended into the dark earth. He thus descended into the dark earth and for his part Anu took over the throne. (A.I 8-15)

The *Theogony* goes on to the second reign:

Anu occupies his throne and powerful Kumarbi serves him drink; he prostrates himself at his feet and places in his hands the drinking vessels. Anu reigned in heaven for nine full years. The ninth year, Anu joined battle before Kumarbi (and) Kumarbi, the grandson of Alalu, joined battle before Anu. Anu no longer withstood Kumarbi's eyes and he escaped from Kumarbi's clutches. He fled, Anu did, and he tried to go to heaven. Kumarbi rushed after him and seized him, Anu, by the feet and pulled him from high heaven. He bit his loins; his manhood joined the entrails of Kumarbi like bronze. When Kumarbi had engulfed the manhood of Anu, he laughed with joy. Anu turned to him (and) addressed Kumarbi: "Do you rejoice within your entrails because you have engulfed my manhood? Do not rejoice in your entrails! Into your entrails I have placed a burden! Look! I have impregnated you with the powerful storm-god and, secondly, I have impregnated you with the river Aranzakh (Tigris), the irresistible. Thirdly, I have impregnated you with the powerful god Tashmishu. I have thus placed in your entrails two terrible gods as a burden. You will end up going to hit your head on the cliffs of the mountain Tassha (in Hurrian territory)!" When Anu had finished speaking, he climbed to heaven and hid.

The text goes on to the third reign: "Kumarbi, the wise king, spat; from his mouth he spat spit-tle [and sperm] mixed together . . ." (A.I 16-38). For a few passages the text is badly damaged; it is possible, though, to reconstruct its general outlines. The second column concerns the preoccupation of the gods with assuring Kumarbi a successful delivery. A god (^dA.GILIM, perhaps Marduk), Anu, and Ea successively lavish their counsel. It seems that the god KA.ZAL is first to be born, emerging from the skull of Kumarbi. Anu, and Ea as well, are eager to have the storm-god born in the best possible condition. Anu

indicates to Teshub the part of Kumarbi's body from which it would be most suitable for him to exit. But Kumarbi makes his way to Ea, the god of wisdom par excellence, and informs him of the powerful hunger that makes him wish to devour his own child. Ea procures for him various foods that make Kumarbi ill. Ea then solicits the aid of human beings. Each one is asked to perform a sacrifice in accordance with his means, as described by Ea: ". . . and to you may the rich, the heroes, and the lords offer cattle [and sheep]; may the poor offer you [food]!" Finally Ea counsels Kumarbi to turn to magic to assure deliverance of the child. The birth of the storm-god, at which the goddesses of destiny are present, then proceeds under the most favorable conditions.

The end of the column appears to describe the birth of Shuwaliyat (Tashmishu), the storm-god's brother. The third column describes the plans for the destruction of Kumarbi worked out by Anu with the aid of Teshub, the storm-god, who in the course of a conversation with Anu himself, enumerates the various attributes with which he is endowed. Combat is then readied by the mobilization of the important gods, but the narrative of the battle is lost. The end of the fourth column is partially preserved; described there is the birth, at the beginning of the tenth month, of two children arising from Anu's fertilization of the earth.

Beyond noting how the several divinities emerged and how their qualities are established in this myth, we must also draw attention to several interesting details:

1. The divine succession Alalu-Anu-Kumarbi-Teshub resembles the sequence Elyon-Uranos-El-Baal (Hadad) mentioned by Philo of Byblos with respect to the Syrian pantheon and furthermore, the succession Uranos-Kronos-Zeus evoked for the first time in Greek literature in Hesiod's *Theogony* and repeated by other authors.

2. Although the storm-god is clearly Teshub, king of Kummiya, he is mentioned under his Luwian-Hittite name Tarkhun(t)-, as the phonetic complements, ^dIM-aš, ^dIM-ni, suggest. This constitutes definite proof of the adaptation of the Hurrian text by a Hittite scribe who, as a result of syncretism, was more readily disposed

to designate the storm-god in his native language.

3. The length of each reign is stipulated as nine years. The number nine was highly symbolic in Babylonia; the Hurrians inherited its significance as much as did the Hittites, in whose language the number signified newness, as it did in the other Indo-European languages. It is possible that a relationship can be established between the length of each reign and the period of human gestation.

4. The need of the gods to receive animal sacrifice from humans is clearly stipulated in connection with the birth of Teshub; the offerings themselves are specified: large and small cattle and food (at least for the heavenly gods). Furthermore, it is striking to see the stress upon the idea that each person make the offering according to his means; the offering of the pauper as well as that of the rich man had real value for the god.

5. The birth of the mysterious god KA.ZAL from the head of Kumarbi is reminiscent of Athena's emerging as a helmeted woman from the head of her royal father; here too, moreover, a deity is brought into the world by a god, not a goddess.

6. The presence of the Babylonian god Marduk and his association with the activity of the "ancient gods" like Anu and Ea is surprising. The equation of ^dA.GILIM with Marduk, however, is certain. This may show a Babylonian influence, but it also could be the result of a copying error by the scribe Ashkhapa working from a document in bad condition and writing ^dA.GILIM instead of ^dA.A., as F. Pecchioli Daddi and A. M. Polvani have suggested. From the Babylonian viewpoint, Marduk is the son of Ea, and it is this filiation that prevailed in the Near East.

The Song of Ullikummi

We know the *Song of Ullikummi* better than the *Theogony* thanks to its richer manuscript tradition. The two texts are related in that the *Song of Ullikummi* presents an essential and well-honed episode of the conflict pitting Kumarbi against the storm-god. From the union of Kumarbi with a mountain was born a monstrous diorite offspring with the meaningful Hurrian name Ullikummi, "destroyer of Kummi[ya]," the holy city of Teshub, probably located near Mount Casius.

The poem immediately gets to the heart of the subject, stating "I will sing of Kumarbi, the father of all the gods." After this simple introduction, the text recounts the coming into the world of Ullikummi, the monstrous diorite:

Kumarbi reflected to himself: one fine day he will create a malevolent being! He developed plans hostile to the storm-god and wished to give rise to a rival to the storm-god. Kumarbi mulls over thoughts in his heart and rolls them around like the pearls of a necklace. When Kumarbi had reflected [wisely], he rose promptly from his throne, took a staff in his hands, and put brisk winds [on his feet as sandals]. He left the city of Urkish and betook himself to the frozen lake. (Tablet 1, A.I 5–16)

In this lake there is a large rock whose appearance so excites the desire of Kumarbi that he finally unites passionately with it. The end of the column is lost. The beginning of the second column suggests that Impaluri, the vizier of the Sea, describes to the latter the determination of Kumarbi to remain the king of the gods. The Sea then commands his vizier to faithfully report the following message to Kumarbi:

"Why have you come in anger against my house? Because of this, fear has seized the house and fear has seized the servants. For you has the cedar wood not been cut for a long time and has food not been cooked [for] you for a long time? Are the musicians not ready to play their instruments in your honor, day and night? Arise and come to me!"

Then he, Kumarbi, arose, and before him walked Impaluri. Kumarbi [left his] residence and he, Kumarbi, left to betake himself to the house of the Sea. The Sea says: "Let us bring a seat for Kumarbi. Let us prepare a table before him. Let us bring him food and drink and let us bring him beer to drink." The cooks brought the platters and the cup-bearers brought sweet wine to drink. They drank once, drank twice, drank thrice. They drank four times, drank five times, drank six times, they drank seven times. Then Kumarbi addressed a speech to Mukishanu, his vizier: "Mukishanu, [my vizier], lend your ear to what I am about to tell you! Take a staff in your hands, put sandals [on your feet] and [go] into the waters and [speak] before the waters. . . ." (Tablet 1, C.II 8–37)

A long lacuna follows, taking us to the third column, which describes the birth of Ullikummi:

[The midwives] brought him into the world . . . and the goddesses of destiny and [the mother goddesses] lifted up the baby. They placed it on the knees of Kumarbi and Kumarbi began to rejoice in this child; he began to caress him and decided to give him a sweet name. Kumarbi began to reflect: "What name [to give] to the child whom the goddesses of destiny and the mother goddesses have given me? Like an arrow he left the body; so! let his name be Ullikummi! May he accede in heaven to kingship and may he defeat Kummiya, the excellent city; may he do battle against the storm-god and may he trample him like chaff; may he crush him underfoot like an ant; may he break Tashmishu like a reed and may he disperse all the gods from the sky like birds and may he break them [like] empty vessels!" (Tablet 1, A.III 10–25)

The last curse is notable, as it sometimes applied to the enemies of the Hittite king in other texts from the era.

Kumarbi then deliberates over who should be entrusted with his child so that he might be raised unnoticed by the great gods. He orders his vizier Impaluri to go as quickly as possible to the Irshirra gods and summon them without revealing the reason. Upon their arrival Kumarbi says to them: "Take [the child who is before you] and treat him as a gift, raise him on the dark earth! Hurry, be quick, and set him like an arrow on the right shoulder of Upelluri (ancient god, Hurrian equivalent of Atlas)!" The Irshirra gods take Ullikummi and place him on the knees of Enlil, who is dumbfounded to see this being of diorite. After reflection, Enlil says that this creature represents an evil deed of Kumarbi. The Irshirras then place the little monster on the right shoulder of Upelluri. The diorite then expands at an astonishing rate.

When the fifteenth day arrived, the rock had grown and risen in the sea on the knees like an arrow. The rock, it left the water and its height was [. . .] and the sea, like a garment, met it at the height of the waist. Like a mushroom the rock rose and reached in heaven the temples and the dwelling of the gods (= *kuntarra*). (Tablet 1, A. IV 27–32)

The sun-god finally observes Ullikummi, and anger can be read in his face. He goes to the storm-god, where he is greeted by Tashmishu, who wonders: "Why does the sun-god of heaven, [the king] of the country, come? The reason for

his coming is a serious reason; it must not be rejected! Hard will be the struggle, hard will be the battle! There will be tumult in heaven, there will be famine and ruin on earth!" Inspired by the contemporary protocol for greeting distinguished guests, the narrative specifies that Teshub orders Tashmishu to bring a seat for the sun-god and to prepare a table for a meal. The sun-god, manifestly annoyed, refuses to sit and eat. Teshub then asks him: "Is the chamberlain who has set up your chair is so incompetent, that you have not seated yourself? Is the waiter [who] set [the table] so bad that you have not eaten? Is the cup-bearer who presented [the cup] to you so bad that you have not drunk?" With these words the first tablet ends.

The second tablet begins with the sun-god's explanation of his behavior to the storm-god, who is disturbed by what he hears. In a lighter mood after eating, the sun-god returns to the sky. Teshub and Tashmishu then leave the *kuntarra* and the temple, holding hands. They are soon joined by Ishtar, and they all climb to the peak of Mount Khazzi (possibly Mount Casius). Teshub spies the gigantic diorite and is seized at once by both wrath and despair. Ishtar then decides to intervene by seducing the monster. Richly adorned, holding in her hands a tambourine and rattles, she intones a song.

And she, the goddess Ishtar, sings and bedecks herself with shells and pebbles of the sea. Then from the sea comes a large wave; the large wave says to Ishtar: "For whom are you singing? Before whom do you fill your mouth with soft singing? The man is deaf; he does not hear, and, as for the eyes, he is blind and does not see. He has no feelings! So go, Ishtar, and find your brother before Ullikummi becomes all-powerful and before his brain becomes formidable." When Ishtar hears this speech, she stops her singing, discards tambourine and rattles, takes off the gold ornaments, groans, [. . .] and goes. . . . (Tablet 2, B.II 13-30)

Although the narrative on the second tablet is very fragmentary, it is clearly a description of the preparation for battle with the gigantic diorite, and the bull-servants of Teshub, Sheri, and Tella (Khurri) are brought on. The battle looms awful.

The third tablet begins with a sea battle between seventy gods led by Ashtabi, the Hurrian

war-god and Ullikummi. The diorite grows agitated and goes to the residence of the heavenly gods: "And it placed itself before the great gate of (the heavenly) Kummiya like a [. . .] and the diorite overturned Khepat (wife of the storm-god) and the temple so that Khepat did not hear the message of the gods and did not see with her eyes the storm-god and Shuwaliyat (Hittite name of Tashmishu)." Khepat becomes uneasy, imagining that her husband Teshub could have even been killed. So she sends her attendant Takiti to find out. Apparently, she returns to announce to Khepat the defeat of her husband.

In the second column, Tashmishu relates to Khepat the defeat of Teshub and the consequences that will follow. The reaction of Khepat and the other gods is described:

When Tashmishu heard the words of the storm-god, he rose promptly and took in his hands a staff, donned as shoes the brisk [winds], and climbed a high tower. He took up a [position] facing Khepat (saying): "(The storm-god must) remain in a humble place until he has completed the years assigned to him." (Tablet 3, A.II 1-7)

In other words, Teshub was condemned to exile.

When Khepat saw Tashmishu, she nearly fell from the roof. If she had taken one more step, she would have fallen from the roof; but the hierodules held her and did not let go of her. When Tashmishu finished speaking, he descended from the tower and went to the storm-god. He said to the storm-god: "Where then (shall we dwell)? Shall we dwell on Mount Kandurna? [If] we sit on Mount Kandurna, someone else will take over Mount Lalapaduwa. Where shall we carry [the . . .]? In heaven there will be no king." (Tablet 3, A.II 8-16)

Tashmishu plans to go right away before Ea, the wise god, in the city of Apshuwa (Apsu), domain of the primeval waters, kingdom of Ea. Very interesting is the following passage relating the words of Tashmishu to his brother:

We will ask for the return of the tablets of ancient words [and when] we arrive at the gate of the residence of Ea, (we will bow) [five times]; then at the internal gate (of the house) of Ea, we will bow five times; and [when] we arrive [before] Ea, we will bow fifteen times before Ea and perhaps we could move Ea; perhaps Ea [will hear] (us), will take pity on us, and will assign us the ancient [kingdom]. (Tablet 3, A.II 20-26)

Without delay, Teshub and Tashmishu go before Ea. Although the rest of the tablet is damaged, we can make out a speech of Ea to the gods gathered in assembly. This speech probably is similar to that given by the same god in identical circumstances in the myth of Khedammu. In it Ea underlines the gravity of the situation and the disastrous consequences for the gods in the event Ullikummi succeeds in destroying humankind. Ea then addresses Enlil and makes him aware of the danger faced by the gods. After this, he returns to Upelluri; after the usual greetings, Ea declares:

Do you know nothing, Upelluri? Has no one brought you the news? Do you not know what a swift god Kumarbi has created to face the gods? And (do you not know) that Kumarbi is forcefully plotting death for the storm-god and creating a rival to him? And the diorite which has expanded in the water, do you not know it? It has grown like a mushroom and has blanketed the sky, the holy temples, and Khepat. Is it because you, Upelluri, are removed from the dark earth that you do not know this swift god? (Tablet 3, A.III 30-39)

Upelluri replies that since the origin of the world, he has been unaware of all that comes to pass above him. Ea then makes him aware of the source of the wound that he feels on the right shoulder; it is Ullikummi shooting up like an arrow! Ea then addresses the ancient gods, asking them to reopen the ancestral storehouses to retrieve the ancient saw with which heaven was separated from earth; it can be used to cut off Ullikummi's feet and thus distance him, like Antaeus, from the source of his power. Although damaged, the end of the text provides us with Ea's announcement to the other gods that he has mutilated Ullikummi and his calling on them to fight more fiercely. Teshub then sets out in his chariot, descends into the sea, and enters combat with the diorite. The last lines seem to relate the defeat of Ullikummi.

In the *Song of Ullikummi*, we observe how gods of foreign origin that became important during the Empire period, and especially during the thirteenth century, are represented within Hittite theology and acquire a place within the Hittite pantheon. The power of the young storm-god Teshub arises from his triumph over Kumarbi. As in the Khedammu myth discussed be-

low, the Ninevite Ishtar appears as the combative but also seductive sister of Teshub and Tashmishu. She plays a crucial role in her brother's triumph, using her erotic appeal as her primary weapon. Ea, the god of wisdom, also plays a significant part in this narrative. Elsewhere, through the characterization of the "new" great gods, we witness the victory of rational powers over brute and blind force, as epitomized by Ullikummi. In this way are secured the benefits that ensue when reason is linked with Ea.

A few details of the myth should be mentioned. Placing a child on its father's lap was a gesture known to antiquity by which a father acknowledged his son and chose a name fitting the circumstances. Also worth notice is Upelluri, the Hurrian counterpart to the Greek Atlas, on whose shoulders the ancient gods raised heaven and earth before severing them with the famous knife. The *Song of Ullikummi* is distinguished by a rather lively yet lyrical narrative style, of which the seduction scenes featuring Ishtar are excellent illustrations. Its sometimes formulaic language is reminiscent of Homer; similar terminology is used whenever the myth describes the movements of the gods or their ministers, a technique that likely helped in memorization or recitation of the myth. Retelling it provided an occasion to focus on the need for rituals, and the myth is a reminder of the importance of teaching the proper way to worship the gods.

The Myth of Khedammu

The central characters of the *Myth of Khedammu* are Kumarbi and the dragon Khedammu, a variant of the monstrous Ullikummi. The relationships between the myths of Khedammu and Ullikummi are clear, but it is difficult to establish which might have served as the model for the other (if in fact one was based on the other). The point of departure is again the desire of Kumarbi to raise up a rival to Teshub. The beginning of the tale is lost. After this gap, we find the Sea granting to Kumarbi his daughter Shertapshurukhi, a woman of great beauty; from their union is born the sea monster Khedammu. The episode following informs us of the care accorded to the dragon and describes its extraordinary voracity. The tale continues with the first acts of destruction committed by the dragon. Ishtar then inter-

venes by coming to the Sea; she finds the cities by the sea deserted. A deity of unknown name gives instructions for receiving the goddess, but she refuses to sit or drink; she is then asked the reasons for her refusal, which was clearly prompted by anxiety. After a large lacuna, we learn of an assembly of gods apparently presided over by Ea. He underscores the danger facing the gods were humanity to be destroyed (cf. the myth of Ullikummi). The gods, he explains, would once again have to provide for their own needs:

If you destroy humanity, it will no longer extol the gods. No one will ever offer sacrificial bread (and) libation. Then it will come to pass that Teshub, the powerful king of Kummiya, will have to hold the plow himself and it will come to pass that Ishtar and Khepat themselves will have to turn the millstone. (Frag. 6, 11–15)

Ea then specifically addresses Kumarbi, whose unreflecting attitude he reproaches: “Why do you wish to injure humanity? . . . Do they not gladly offer their sacrifices in your temple, O Kumarbi, father of the gods?” Ea’s speech illustrates a theme often found in near eastern literature; namely, the creation by the gods of people in their image because the gods, exhausted, needed capable servants. To suppress humanity would amount to forcing the gods back to the painful condition from which the creation of humankind had liberated them. (This is also the theme of the creation of humankind as related in the Babylonian myth of Atrakhasis.)

After this speech, an interview between the Sea and Kumarbi is arranged by Mukishanu, vizier of Kumarbi, who returns to the Sea by an underground route so as not to be seen by the great gods in heaven. The Sea thereupon visits Kumarbi. After another lacuna, an unknown deity undertakes preparations for neutralizing Khedammu. At this moment Ishtar appears, banking on her powers of seduction: “She prepared herself and gracefulness dogged her footsteps like hounds.” The seduction of a monster by dance, music, and feminine grace is another common theme in the mythic literature of the Near East.

Ishtar goes to the shore with her two followers, Ninatta and Kulitta, and probably begins a dance to the sound of the tambourine. Khedammu

raises his head above the waves and espies the goddess fully nude and resplendently beautiful. A conversation commences between the goddess and the monster; unfortunately we have it only in very fragmentary form. Ishtar is now undertaking a new attempt at seduction, trying to excite Khedammu by her words, notably by declaring to him: “I am a wrathful child, and wrath has [overrun] me as foliage [overruns] the mountains”; the image evoked is highly poetic. Ishtar then pours a sleeping potion into the water where the dragon lives, which dissipates his aggressiveness. She then shows herself to him naked, seduces him, and invites him, fully submissive, to follow her. Khedammu seems to submit, but the end of the myth is lost.

The composite character of the myth is obvious. The mythmaker(s) responsible for the Khedammu episode has selected and sequenced a cluster of motifs of diverse origins: Hurrian (by relying heavily on the *Song of Ullikummi* or by scrutinizing traditions of similar background); Mesopotamian (in the absence of Hurrian intermediaries); and Anatolian (by choosing a dragon as the storm-god’s antagonist, which reminds one of the Anatolian Illuyanka, who similarly challenges a storm-god).

It is possible that the myth of Khedammu may have served as a link between the *Song of Ullikummi* and the myth of the Cilician (southern Anatolian) dragon Typhon (Typhoeus), as told in the fifth century CE by Nonnus of Panopolis (ancient Khemmis, Akhmim) in Song I of his *Dionysiaca*. In turn Nonnus himself seems to have been inspired by Pisander of Laranda (Karaman), an author of the third century CE whose work is suffused with Anatolian traditions, as well as by other Greek-speaking Cilician writers.

Other Fragmentary Sources That Mention Kumarbi

In addition to these three basic texts is a series of fragments mentioning Kumarbi and linked to his personality. The first of these is *The Romance of Kesshi*, a true literary composition of which, unfortunately, only the first part is extant. The Hurrian version of the tale contains the name of Kumarbi (fourteenth tablet), which is missing in the Hittite fragments. Kesshi, fatherless but a

heroic hunter, falls so in love with a pretty young woman that he renounces his hunting expeditions. The gods are thereby deprived of offerings and the city is deprived of sustenance. Cut to the quick by his mother's reproaches, he returns to the hunt, but since the gods wish to punish him, he finds no game. One day, exhausted and disappointed, he falls asleep on a mountain. Evil gnomes wish to devour him, but the hunter's dead father suggests to them that they strip Kesshi of his cloak instead; drawn to the idea of a practical joke, they do so. Stiff with cold, Kesshi returns to his house. Later he has several strange, premonitory dreams that his mother urges him to ignore.

The protagonist of another tale, *The Myth of Silver*, is a person labeled "Silver." His mother, seemingly a mortal, informs him that his father, who has abandoned him, is none other than the god Kumarbi, Lord of Urkish. She also tells him that his brother is Teshub and his sister is Ishtar of Nineveh (Tell Kuyunjik, Nebi Yunus). Silver heads for Urkish to seek his father. Following a lacuna in the text, we find Silver under the influence of Kumarbi, menacing the great gods of the sky and seeking to take power in heaven. This myth constitutes a phase of the war of the gods to conquer the heavenly kingship and of the vengeance harbored by Kumarbi toward Teshub.

A third set of fragments, *The Kingship of the god KAL/LAMMA*, is concerned with another episode in the conquest of the kingship in heaven. They include the efforts of the god Ea, the wise god, to moderate the hostility of Teshub, storm-god, toward Kumarbi and to curb his pretension to become king of the gods, whatever the cost and however violently. Ea prefers to Teshub a peaceable god who is susceptible to restoring calm and unity to the divine family. His choice is a god designated solely by the Sumerogram ^dKAL/^dLAMMA, which among the Hittites designates several protective gods of wild nature. However the Hurrian name of this god cannot be determined at present.

There are a few other fragments that are difficult to reconcile with any known mythological texts. The fragments, though, recall a Babylonian mythological model. One fragment in Hittite and two others in Hurrian contain episodes from the Gilgamesh epic. A fourth fragment con-

tains the Hittite version of the famous myth of Atrakhasis, so important for explaining the origin of man and his purpose. In these texts Kumarbi is Enlil, as he is known to the Hurrians.

CONCLUSION

The place of the Kumarbi Cycle in Hittite culture cannot be disassociated from the progressive Hurrianization of dominant elements in Hittite society that culminated in the thirteenth century BCE. It was contingent on the manifest and complete integration of Hurrian deities into the theological context obtaining in Anatolia, with the imperfect adaptation of Hurrian myths being a major factor in that development. The thirteenth century witnessed the adoption of Teshub, his consort Khepat, and Shaushka into the officially sanctioned pantheon. The position of Ea, the wisdom god, was bolstered. Whether imported directly or through intermediaries, the Hurrian and Canaanite myths gave the Hittite theologians an excellent opportunity to sharpen the roles that they could assign these gods within a Hittite universe. Above all it was necessary to explain the kingship and primacy of Teshub—assimilated to Tarkhunt—and of his divine circle, and the Kumarbi series of tales constituted an excellent vehicle by which to do so. Its enchanting poetic idiom was a matchless resource for instilling pedagogic and moralistic values.

Nevertheless, the concrete impact of these "foreign" myths on the Hittite population is difficult to assess, given the available documentation. In Hittite society, as elsewhere in antiquity, there was a real chasm between official and popular religion; therefore it is plausible conjecture, but still conjecture, on our part that what we recognize as Hurrian-developed myths were better known to the Hittite ruling classes than among the common folk, people who lived and worshiped far from where theological and political speculation was taking place.

A connection between diverse episodes in the Kumarbi Cycle and mythological passages in Greek is plausible, and the matter deserves further attention. We have already commented on the parallels with episodes in Hesiod's *Theogony*, as well as with other works known to the

Greeks, although we still do not know how the linkage actually occurred. It is possible that the Greek world of the second millennium—possibly through Akkhiyawa—knew these Hurro-Syrian myths at the same time as they came to be known to the Hittites, conceivably through mercantile channels.

Yet there is another plausible avenue of linkage. The linguistic, even cultural and religious, continuity between the Hittites and Greeks of Anatolia is becoming progressively more evident, especially in southern Anatolia (Cilicia, Pisidia, Pamphylia, Lycia). Would it be unreasonable to suppose that the memory of myths such as those associated with Kumarbi were sustained in homes and in religious centers that remained active for long centuries? Carchemish (Karkamish) and its surroundings at Comagene, Tarsus, or even in Comana—the Hittites' Kummani of Kizzuwatna—would have been excellent locales for such myths to survive into the classical period.

*Translated from the French by Peter Daniels
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BIBLIOGRAPHY

Basic Works

FRANCA PECCHIOLI DADDI and ANNA MARIA POLVANI, *La mitologia ittita* (1990); HANS GUSTAV GÜTERBOCK, *Kumarbi. Mythen vom churritischen Kronos* (1946), "The Song of Ullikummi: Revised Text of the Hittite Version of a Hurrian Myth," *Journal of Cuneiform Studies* 5, no. 4 (1951) and 6, no. 1 (1952), and "Kumarbi," *Reallexikon der Assyriologie* 6 (1980); HARRY A. HOFFNER, JR., *Hittite Myths* (1990); EMMANUEL LAROCHE, *Catalogue des textes hittites* (1971), and

"Textes mythologiques hittites en transcription, deuxième partie: Mythologie d'origine étrangère," *Revue hittite et asianique* 26, no. 82 (1968); LIANE JAKOB-ROST, *Das Lied von Ullikummi. Dichtung von Hethiter* (1977); JANA SIEGLOVÁ, *Appu-Märchen und Hedammu-Mythus*, Studien zu den Boğazköy Texten 14 (1971); and MAURICE VIEYRA, "Les textes hittites," in *Les religions du Proche-Orient*, edited by RENÉ LABAT ET AL. (1971).

Special Studies

RICHARD D. BARNETT, "The Epic of Kumarbi and the Theogony of Hesiod," *Journal of Hellenic Studies* 45 (1945); A. BERNABÉ, "Generaciones de dioses y sucesión interrumpida: El mito hitita de Kumarbi, la 'Teogonía' de Hesíodo y la del 'Papiro de Dervini'," *Aula Orientalis* 7, no. 2 (1989); CORINNE BONNET, "Typhon et Baal Saphon," in *Studia Phoenicia* 5, edited by E. LIPIŃSKI (1987); JOHN DAY, *God's Conflict with the Dragon and the Sea: Echoes of a Canaanite Myth in the Old Testament* (1985); OLIVER R. GURNEY, "The Symbolism of 9 in Babylonian and Hittite Literature," *Journal of the Department of English* 14 (1978–1979); HANS GUSTAV GÜTERBOCK, "The Hittite Version of the Hurrian Kumarbi Myths: Oriental Forerunners of Hesiod," *American Journal of Archaeology* 52, no. 1 (1948), "Die Inschriften," in *Das hethitische Felsheiligtum Yazılıkaya*, by KURT BITTEL ET AL. (1975), and *Les hiéroglyphes de Yazılıkaya* (1982); EMMANUEL LAROCHE, "Les dieux de Yazılıkaya," *Revue hittite et asianique* 27, nos. 84–85 (1969), and "The Pantheons of Asia Minor: The Organization of the Hittite Gods" and "Hurrian Borrowings from the Babylonian System" in *Mythologies*, vol. 1, compiled by YVES BONNEFOY (1991); RENÉ LEBRUN, "Pauvres et démunis dans la société hittite," *Hethitica* 4 (1981), and "Quelques aspects du symbolisme dans le culte hittite," in *Le Symbolisme dans le culte des grandes religions*, edited by J. RIES, *Homo Religiosus*, vol. 11 (1985); ALBIN LESKY, "Griechischer Mythos and Vorderer Orient," *Saeculum* 6, no. 2 (1955); FRANCIS VIAN, "Le Mythe de Typhée et le problème de ses origines orientales," in *Éléments orientaux dans la religion grecque ancienne* (1960).

SEE ALSO *Myth and Mythmaking in Sumer and Akkad* (Part 8, Vol. III) and *Hittite and Hurrian Literatures: An Overview* (Part 9, Vol. IV).

Theology, Priests, and Worship in Hittite Anatolia

GREGORY MCMAHON

WRITTEN EVIDENCE FOR OUR understanding of Hittite culture comes primarily from the state archives discovered at the Hittite capital of Khat-tusha (modern Boğazköy). In the archives are a great variety of text genres, some specifically religious, others bearing less directly on religion. Despite the paucity of texts devoted specifically to theological speculation, the tablets allow modern scholars to construct a fairly complete picture of the Hittite perception of the divine. Most numerous are texts concerned with instructions for the festival ceremonies that made up the official state cult. Prayers, rare in the corpus of available texts, provide insight into the Hittite view of relations between human and divine. Hittite prayer combines supplication, praise, and an attempt to reason with the gods. The *Plague Prayers of Murshili II* are excellent examples of the individual's feeling of responsibility for the land and for his predecessor's sins as well as of the desire both to supplicate the gods and to reason with them. The few hymns to the gods are patterned on Mesopotamian prototypes.

Vows, like prayers, provide a rare glimpse of Hittite personal relations with the divine. They may either be made in response to a special revelation from the god, perhaps in a dream, or

be occasioned by a crisis that calls for special attentiveness from the god. The vows reveal a kind of *do ut des*, "I give that you may give," model for human-divine relations; the individual promises to provide something for the gods—for example offerings or a statue—in return for divine aid.

The mythological texts from the archives illustrate both Hittite theology and the Hittite debt to other cultures in the development of that theology. The myths of the Old Hittite era all seem to have been translated into Hittite from Hattic, the language of the pre-Hittite inhabitants of central Anatolia. These early myths depict a rather simple pantheon, with each one providing background for a ritual associated with it. *The Moon That Fell from Heaven* depicts the disruption of the natural order. The myth of Illuyanka, which tells of a cosmic battle between a serpent and the storm-god, accompanied the celebration of the *purulli* festival associated with spring. The myth reiterates the storm-god's triumph over his enemies in the season when this god brought renewal to the earth. The other major group of myths dependent on Hattic prototypes is the vanishing deity type, in which a god absents himself from his usual position in nature. Myths of this type, with several different deities

playing the role of the truant, accompany rituals of attraction magic designed to bring the gods back to Khatti.

Surviving from the later centuries of the Hittite state are a number of Hurrian myths, again translated into Hittite. In this mythology a different pantheon is revealed, populated with gods native to the Hurrians and a number of Mesopotamian gods. One cycle of Hurrian myths revolves around the dynastic struggle for control of the heavenly realm. The cycle depends to a certain extent on the traditions of the Babylonian creation epic and provides the structure upon which Hesiod seemingly modeled his *Theogony* centuries later. Kumarbi, a distinctively Hurrian god, wrests control of heaven away from Anu, only to lose hegemony in turn to the storm-god, (the Hurrian Teshub). Kumarbi's bid to force one more dynastic turnover with the help of the stone monster Ullikummi apparently fails, for Hurrian-Hittite theology accorded first place in the pantheon to the storm-god. (See "From Hittite Mythology: The Kumarbi Cycle" earlier in this volume.)

The Hurrian myths are independent literary creations and reflect a pantheon and homeland different from Hattic mythology. The two mythologies, Hurrian and Hattic, adopted by the Hittites successively, share a common interest in the nature of the cosmos and in remedying any disruption of the natural order. In the myths of Hattic background, that disruption might occur either because a god became angry and disappeared, because a god simply lost his appointed sphere of influence, or because of conflict among gods. In Hurrian myth this disruption occurs because the gods might neglect their accustomed roles in the operation of the universe due to conflict between dynasties or generations over sharing power in the divine realm. Through their depictions of the actions and speech of the gods, the mythological texts provide the most individualized portraits of their personalities and interrelationships that we have.

Hittite divination involved both omēn texts, which are translations of Akkadian omens imported from Mesopotamia and Syria, and several distinctively Hittite forms of oracles, which allowed mankind to initiate communication with the gods. The omens and liver models involve

nothing not already attested in Mesopotamia and thus indicate the extent to which the Hittites accepted the theological precept that the gods constantly sought to communicate with mankind through unusual events. (Liver models are actual models of the liver of sheep done in clay, with cuneiform inscriptions identifying the significant parts of the liver and what to look for in those areas when doing hepatoscopy. They are guides to the correct interpretation of the liver when an examination is taken by an oracle.) The evidence of the oracle texts indicates that the Hittites were not always content simply to wait for the gods to send a message. The preponderance of oracle texts in their divination literature indicates the Hittites' desire to ensure that they were serving the gods properly. The gods might be angry because of some sin of negligence or impurity, which had to be discovered so that propitiation or supplication could rectify the situation.

Texts describing magical rituals complement the picture of Hittite theology derived from festivals, prayers, mythology, and divination. In general they do not focus upon the gods, but they do provide evidence of the Hittite emphasis on purity that informed their relations with the divine.

The Hittites' concern with organization manifested itself in a variety of administrative documents. Among these are the instruction texts detailing the duties of various state officials. The *Instructions for Border Guards* contain explicit directions for maintaining local cults in the outlying provinces. The *Instructions for Temple Officials* are a rich source for understanding the administration of the temple and throw light on Hittite conceptions of human-divine relations.

Hittite administrative procedure also included inventories of the state's resources. In the late period, under Tudkhaliya IV, this included an inventory of the religious assets of the realm. Cultic equipment, personnel, and traditions for local cults throughout the empire were carefully recorded. Thus the king could get some idea of the religious resources of the state; for us such records provide a glimpse of local traditions not incorporated into the state cult.

The many treaties preserved in the archives reveal a different aspect of the Hittite religious

impulse. At least in theory, the responsibility for enforcing such treaties was placed upon the gods, who witnessed the oaths taken by the contracting parties. The Hittites felt that a greater power was necessary to oversee agreements with neighboring polities. The frequent need to list the oath-witness gods gave the state the opportunity to formalize and rationalize its conception of the gods in toto; the result is a fairly consistent conception of the pantheon and its hierarchy. In all of these texts, however, there is very little evidence of serious theological speculation. The “official” synthesized pantheon does not include all attested deities, and no works have the primary purpose of establishing a systematic theology.

In addition to the tablets, the epigraphic writing also includes monumental inscriptions in hieroglyphic Luwian from the Empire period and from the later Neo-Hittite states. Seals provide further information about theophoric names (personal names of which one element is a divine name) and representations of the gods. Pictorial evidence from reliefs and statues supplements the descriptions of divine images from the cult inventories. Most notable among the reliefs are those of the magnificent sanctuary at Yazılıkaya, an open-air place of worship incorporating a procession of gods carved into its stone walls (see fig. 9 in “Anatolian Architectural Decorations, Statuary, and Stelae” in Part 10, Vol. IV). This procession recreates in stone a pantheon like that formulated by the priests and scribes in the treaty oath-witness lists. It is important to note that the deities presented here differ in many respects from those listed in the treaties, for the pantheon of Yazılıkaya represents a rather late adaptation of the Kizzuwatna (Cilicia) pantheon and cult that were influenced by Hurrian and Luwian religions. Other reliefs provide evidence for divine iconography or depict actual scenes of worship, adding to the descriptions in festival texts.

Supplementing this large body of textual and pictorial material is the evidence of the temples themselves. In addition to one very large temple complex in the Lower City (Temple I), at least twenty-seven smaller temples have been identified in the Upper City at Khattusha. Temple I is a complex including storage magazines and

is characterized by two cult niches for divine images. The architecture is designed to control access to the deities so that one could not see the images from the large courtyard.

One must constantly bear in mind that this evidence comes exclusively from official sources. We are allowed only a glimpse of individual human relations with the gods as they are revealed through prayers and vows. Therefore our conception of Hittite beliefs about the divine is primarily restricted to a view of the official religion as practiced and promoted by the state, although the rituals may reveal something of the religion of the common person.

BACKGROUND

Hittite culture was to a great extent derivative; writing, mythology, diplomacy, and divination were modeled on forms developed by other cultures. The state religion drew upon a variety of other traditions. Gods whose names are manifestly not Indo-European predominate. Even more tellingly the cultic texts preserved the liturgies of several distinct traditions; Hattic deities heard a recitation in Hattic, while worship of Hurrian, Palaic, and Luwian deities also incorporated liturgy in the native languages. There are even a few examples of Akkadian recitations for Mesopotamian gods. The text may either quote the foreign-language litany or simply specify that singers sing in the appropriate language. The etymologies of many “Hittite” divine names are a useful guide to their cultural origins, but many names are hidden behind logographic writings in Sumerian or Akkadian. A scribe using a logogram (a symbol representing an entire word) to refer to the storm-god may mean the Mesopotamian Adad, Hittite Tarkhuna, Hurrian Teshub, or Luwian Tarkhunt.

The primary religious traditions on which the Hittites patterned their pantheon are the Hattic and Hurrian. Hattic culture is known to us primarily through pre-Hittite archaeological evidence, the evidence of the Old Assyrian merchants’ archives, and the Hittite archives. We may assume that the Indo-European Hittite-speaking population had its own religious sys-



Plan of Temple 1, Boğazköy. KURT BITTEL, *DIE HETHITER* (1976)

tem. Because Hattic culture was well established when the speakers of Hittite founded a unified polity, this tradition became the dominant influence on the early kingdom (circa 1600–1400 BCE). The early state religion must have been a synthesis of the religious tradition of the Hittite speakers and Hattic religion. We cannot always identify what the official religion, docu-

mented in the state archives, owes to each of the two earlier traditions, because we have no textual evidence for either tradition predating the Hittite state and the resulting religious synthesis. Hattic gods became the main gods of the state, Hattic festivals provided the pattern for early Hittite worship, and Hattic myths articulated the earliest formal Hittite theology.

Because the Hattic people were not politically unified, the various cities which were the cultural centers of the pre-Hittite period (late third and early second millennium BCE) developed along independent lines. One result was a wealth of local deities, each specific to a cult center. The Hittites took many of these gods into their state pantheon, a process which indicates the Hittite tendency toward both comprehensiveness and syncretism, as well as a concern with developing a coherent and organized pantheon. The process of homogenization may have been affected by the system of using logograms to write the names of gods, since it made obvious the similarities of many gods whose names were written with the same symbol. Similarities among local gods allowed many to be subsumed under major deities like the storm-god. But throughout the history of the Hittite kingdom, many gods retained as an essential part of their identity their geographic origin—for example the storm-god of Nerik or the sun-goddess of Arinna.

The Hittites first encountered the Hurrians of northern Mesopotamia early in their history as a state (sixteenth century BCE), but the strong Hurrian influence on Hittite culture is not evident until the Middle Hittite period. That influence came to dominate the culture of the Empire period, especially in the religious sphere. Hurrian mythology provided a new pantheon, and Hurrian forms for religious ceremony, magic, and divination supplanted those dependent on the older Anatolian Hattic traditions. Thus Hittite theology and worship in their final form, in which they are best attested in surviving texts, represent a development over the sixteenth to thirteenth centuries BCE, drawing primarily from Hattic, Hittite, Hurrian, and Mesopotamian concepts of the divine. (See “The Kingdom of Mitanni in Second-Millennium Upper Mesopotamia” in Part 5, Vol. II.)

THE PANTHEON

Perhaps the most outstanding trait of the Hittite pantheon is its complexity; the Hittites themselves referred to the “thousand gods of Khatti.” The gods may be categorized in several ways:

by culture of origin; by cult center; by basic type; or by the hierarchy of the pantheon.

Important gods of the Hattic pantheon as preserved in Old Hittite (circa 1600–1400 BCE) religious texts included the storm-god, a sun-god, Khalmashuit (the deified throne), Telipinu, and Inara. There were many manifestations of the storm-god; the storm-god of Khatti or the storm-god of Heaven took first place in the pantheon. From the earliest days, the sun deity also had a variety of manifestations: a male sun-god; the sun-goddess of Arinna; and a sun-goddess of the Earth (that is, the sun traveling underground at night) were prominent. At the head of the developed Old Hittite pantheon stood a divine couple, the storm-god and the sun-goddess of Arinna; their sons, the storm-gods of Nerik and Zippalanda; their daughter, Mezzulla; and their granddaughter, Zintukhi. On the evidence of the mythology, Telipinu and the goddess Inara are also at the highest level. This view is modified by the less prominent position accorded them in the cult; religious practice apparently did not always reflect the theology as revealed in the early mythology. The Hittites often took over these deities directly, converting their names into Hittite. Thus the Hattic sun-god Eshtan became the Hittite Ishtanu and Hattic Inar became the Hittite Inara.

In the New Hittite, or empire, period (circa 1350–1200 BCE), the pantheon under Hurrian influence was more rigidly formalized: in addition syncretization changed some of the names, and more gods were added. The head of the pantheon was still the storm-god, now the Hurrian Teshub. His consort was the Hurrian goddess Khepat, syncretized with the sun-goddess of Arinna. His primacy in the pantheon is indicated by his prominence in the oath-deity lists; his place at the head of the procession of gods at Yazılıkaya; and Hurrian (now Hittite) mythology, which depicts him as the ruler of the heavens. The storm-god’s prominence in the Hittite homeland is understandable in a region dependent primarily on rain for agriculture. The high position of the sun-goddess of Arinna/Khepat may be attributable partially to Murshili II’s devotion to her and to Pudukhepa, wife of Khattushili III, a queen whose very name indicates her interest in Khepat. In this later version of the pantheon, the divine couple’s family included

only one prominent son, Sharruma, a south Anatolian Hurrian god syncretized with the storm-god of Nerik. Sharruma's prominence in the later period is evident from his position in the great procession at Yazılıkaya on both the male and female sides of the sanctuary, in each case immediately following his father or mother—if we may indeed interpret the calf labeled “male calf of Teshub” as referring to Sharruma—and from the great relief at the same sanctuary depicting this god holding King Tudkhaliya IV in a protective embrace.

The pantheon of this later period included several other important deities: the male sun-god (the Hurrian Shimegi); the moon-god (the Hurrian Kushukh); Ishtar, who took a variety of localized forms and might be worshiped in a Mesopotamian manifestation (Ishtar of Nineveh [Tell Kuyunjik, Nebi Yunus]) or Hurrian form (Shaushga); and the tutelary deities, of which Zitkhariya and the Tutelary Deity of Khatti figured especially prominently. Ishtar was a goddess of war and the only goddess on the male side of the procession at Yazılıkaya. The concept of tutelary, or protective, deities seems to have come to the Hittites from both the Hattic and Mesopotamian traditions. Thus all the tutelary deities had names which were either Hattic or were written with the Sumerogram LAMMA, often followed by some kind of identifying epithet. (A Sumerogram is a logographically written Sumerian word used as an abbreviation in a Hittite or Akkadian text.) The tutelary deities exhibit a diversity, expressed by localized origin or sphere of influence, matched only by the great variety of storm-gods. A festival devoted to all of the tutelary deities provides a rare example of Hittite theological speculation as it attempts both to explore and define quite specifically the realms which the tutelary deities might be expected to oversee.

The less prominent gods of the state pantheon were usually limited to one ethnic group or locale. Hattic gods included Wurunkatte (King of the Land), a war god; the storm-god Taru and his consort Wurushemu; Khannakhanna, the grandmother; Kattakkha, “the Queen”; and Shiwatt, meaning “the (propitious) day.” In at least two cases, the Hittites translated a Hattic name; the Hattic Kait became the Hittite Khalki (grain) and the Hattic Katakhzipuri became the Hittite Kamrushepa, a goddess of magic.

Hurrian deities also included Kumarbi, a god of fertility and grain who is an essential character in the mythological cycle given his name by modern scholars; Ullikummi, the stone monster who fights as Kumarbi's champion; Ninatta and Kulitta, attendants of Ishtar; Sherri and Khurri, bulls that pull Teshub's chariot; Nikkal (Sumerian Ningal), the moon-god's consort; Ashtabi, a war god; and A'a, the Sumerian Ea.

Hurrian influence on Hittite religion was transmitted primarily via Kizzuwatna in southern Anatolia, an area of mixed Hurrian and Luwian culture. Gods distinctive to the Luwian milieu included Tarkhunt, the Luwian storm-god, and Shanda, who was apparently syncretized with Marduk of Babylon. The one god distinctive to the Palaic culture of the area north and west of Khattusha is Ziparwa.

Additional gods of interest included several Aryan deities—Indra, Mitra, Varuna, and the Nasatya twins, mentioned only in a pair of treaties concluded with the Hurrian kingdom of Mitanni. Kubaba, the primary goddess of the Syrian city of Carchemish (Karkamish) and mentioned only occasionally elsewhere, assumed a new prominence in the Neo-Hittite period as the political importance of Carchemish grew after the fall of Khattusha. She was later worshiped by the Phrygians as their primary goddess and had a temple in the Lydian city of Sardis. Through these later Anatolian cultures, she was eventually adopted as Cybele into the Roman pantheon and had a widespread cult in the Roman Empire. There was also a wealth of other storm-gods, identified by locale or by special interest, such as the storm-god of the Army. There are many other gods who are little more to us than names in oath-witness or offering lists. They demonstrate the Hittites' concern for thoroughness in their worship.

In addition to anthropomorphic deities, the Hittites recognized a variety of other manifestations of the divine. In the temple cella, many of the fixtures or architectural elements, such as the hearth and the door bolt, were considered holy and received offerings; an offering ceremony incorporating standardized lists of these places began many cult ceremonies. Mountains, rivers, and springs might also be deified and receive offerings. There were chthonic deities such as the pit (^dA-a-pi) into which sacrifices were lowered. A common noun, such as the (pro-

Theology, Priests, and Worship in Hittite Anatolia

TABLE 1
Hittite Deities

<i>Deities of Hattic Origin</i>	
Eshtan (Hittite Ishtanu)	sun-god
Inar (Hittite Inara)	
Kait	grain deity
Kattakkha	"the Queen"
Katakhzipuri	goddess of magic
Khalmashuit	deified throne
Mezulla	daughter of storm-god and Wurushemu/sun-goddess of Arinna
Shiwatt	"(propitious) day"
Storm-God of Nerik	son of storm-god and Wurushemu/sun-goddess of Arinna
Storm-God of Zippalanda	son of storm-god and Wurushemu/sun-goddess of Arinna
Taru	storm-god
Telipinu	vegetation god
Wurunkatte	"King of the Land," a war god
Wurushemu	consort of storm-god; identified with sun-goddess of Arinna
Zintukhi	granddaughter of storm-god and Wurushemu/sun-goddess of Arinna
Zitkhariya	tutelary deity
<i>Hittite, Luwian, and Palaic Deities</i>	
Tarkhunt	Luwian storm-god
Kamrushepa	goddess of magic
Khalki	grain deity
Khannakhanna	"the Grandmother"
Shanda	Luwian, identified with Marduk
Sun-Goddess of Arinna	consort of storm-god, identified with Wurushemu
Sun-Goddess of the Earth	sun traveling under the earth at night
Tarkhuna	storm-god
Ziparwa	Palaic god
<i>Deities of Hurrian Origin</i>	
Ashtabi	a war god, identified with Ninurta or Zababa
Khepat	consort of Teshub
Kumarbi	vegetation deity
Kushukh	moon-god
Ninatta and Kulitta	attendants of Ishtar
Sharruma	son of Teshub and Khepat
Shaushka	Hurrian form of Ishtar

Continued on the next page.

TABLE 1 *Continued*

<i>Deities of Hurrian Origin</i>	
Sherri and Khurri	bulls of Teshub
Shimegi	sun-god
Teshub	storm-god
Ullikummi	stone monster, champion of Kumarbi
<i>Other Deities</i>	
ISHKUR	"the storm-god"; many manifestations identified by geographic or other epithets
Ishtar of Nineveh	Mesopotamian form of Ishtar
Kubaba	goddess of Carchemish
LAMMA	"the Tutelary Deity"; many manifestations identified by geographic or other epithets

pitious) day (Shiwatt) or the sea (Aruna), might be perceived as divine. The latter may be analogous to the deification of other geographical features, such as mountains. Surviving from an earlier period was the rare worship of fetishes such as the *kurša*, a hunting bag which functioned as the totem for a tutelary deity.

NATURE OF THE GODS

In discussing a diversely polytheistic system such as that of the Hittites, one may make very few general statements about the nature of the divine. The basic conceptualization of human-divine relations utilized the analogy of the master and slave. This may be seen in the *Plague Prayers of Murshili II* and very explicitly in the *Instructions for Temple Personnel*. These instructions make clear the attitude of the gods toward sin; retribution will come, and not just upon the offender, but upon his whole family. The state left nothing to chance and assisted the gods by carrying out punishments for miscreants among the temple personnel, but the text stresses that if the offense was never discovered

by a human agency, the gods would execute their own punishment. Deviation from the behavior expected by the gods constituted sin. In the case of the temple personnel, the sins of most concern were theft from the gods' stores, violation of standards of purity, and neglect of the gods. For many sins of this nature, the state imposed the death penalty.

The concern for purity in those who served the gods is also evident in a ritual for the purification of the king and queen and in the *Instructions for Servants of the Palace*, in which harsh penalties are stipulated for negligence in matters of cleanliness. This follows from the Hittite belief that impurity could be transferred to another and that, therefore, the king as the highest priest of the land had to maintain his cultic purity. However, it was not only the king whose impurity could endanger the land; sufficient impurity in anyone could anger the gods. Thus in the Hittite Laws certain offenses are described by the special term *hurkel*, a crime of uncleanness. Certain kinds of bestiality were punishable by death for this reason. Cleansing from impurity normally involved a ritual based upon sympathetic magical procedures, for which the aid of the gods might be invoked.

Concern for the care of the gods resulted in the formalized *Instructions for Temple Personnel*. Concern for proper attention to the gods also motivated much of the questioning of the gods through oracles. Sins revealed by such procedures frequently turned out to be the omission or improper performance of a festival prescribed by the religious calendar.

The gods also demanded the keeping of oaths to which they had borne witness. In his *Plague Prayers*, Murshili II acknowledged the fairness of the gods' judgment in bringing a plague to the Hittite homeland because of his father's breaking of a treaty. This shows the development of moral sense. The Hittites' relationship with the gods went beyond ritual to encompass ideas of the gods' expectations for moral behavior, and at times they felt a genuine sense of guilt when falling short of those expectations.

Thus the gods were concerned with the affairs of mankind and had expectations of both morality and piety. In return they looked after the interests of the state and the individual through the agency of their *para handandatar*. This attribute of the gods distinguished them from human beings and encompassed both divine justice and the power to impose that justice. In their legal texts, the Hittites demonstrated a concern for justice, for which the gods were the source. Thus Murshili II in his *Annals* challenged the king of Arzawa: "Come now . . . let the Storm-God my lord judge the case between us."

Because *para handandatar* combined justice and power, it allowed the gods to protect their people, particularly the king. However, the king could claim the gods' protection only when he was in the right. For this reason Hittite historiography provides not just a chronicle of events but also the king's self-justification. It was important to the state to have a good *casus belli* before entering into conflict; such justification appears in the *Annals* of Murshili II and the *Apology* of Khattushili III, where the gods run before the king and his army in battle to protect them. Individual kings might also form special relationships with particular gods. For Murshili II the primary deity was the sun-goddess of Arinna. In battle, however, it is best to be protected as completely as possible, so not only the sun-goddess of Arinna, but also the strong storm-god,

Mezzulla, and all the gods ran before the king. In his *Apology*, Khattushili III made much of the special favor shown him by Ishtar. At Yazılıkaya, Tudkhaliya IV depicted himself in the protective embrace of Sharruma. The tutelary deities were also by their nature protective, but this borrowed concept seems not to have taken root in individual religious attitudes.

The relations of the Hittites to their gods were conditioned also by the belief that while some gods had power in all areas, many others had special areas of interest or control. In Hattic theology the gods cooperated and jointly ruled the cosmos. As in all polytheistic conceptualizations of the universe, no one god could be completely universal in his power or the allegiance owed him because of the existence of so many other deities. In the vanishing-deity myths, a god in anger withdrew his contributions to the operation of the cosmos, and the loss of that one deity threw the entire system into confusion. Such vanishing deities, once roused to depart their sphere of influence, proved recalcitrant and needed much coaxing to return and restore the divine order that held the universe together. The chaos resulting from the diminution of the pantheon threatened both gods and men; the gods took the responsibility of locating the missing god, and gods and men worked together to entice the god back to his home. Thus mankind was dependent on the goodwill of all the gods.

In the Hurrian mythological texts, the gods seem oblivious to mankind, which essentially plays no role in their celestial conflicts. Hurrian theology tends to the concept of one supreme god, a universal god who wins that place by conquest and thus rules partially through intimidation. This may derive from the Mesopotamian mythological texts on which the Hurrian myths were patterned, which recount cosmic battles for supremacy in the heavens.

Noteworthy in Hittite theology is the absence of a creation story. What makes this especially striking is that the Mesopotamian creation stories that serve as the prototypes for the Kumarbi cycle describe the creation of mankind and the reasons behind it. Thus while the Hittites had a fairly coherent view of the divine, their literature as preserved contains almost no formalized philosophy concerning the nature of mankind.

REPRESENTATIONS OF THE GODS

Like deities throughout the ancient Near East, Hittite gods were almost invariably represented by some kind of image, usually anthropomorphic. Statuettes are attested from the prehistoric period in Anatolia and are very well represented in central Anatolia from the Old Assyrian period. From the Hittite period, a typical relief shows the god either seated and receiving offerings or standing in a standard pose. Certain basic elements of iconography characterize most images: a peaked cap with horns and typical Hittite dress with turned-up shoes, kilt, and often a sword in the belt. Individual deities have distinctive iconographies; the storm-god usually carries a mace and may hold a bolt of lightning as well, Ishtar has wings, and the moon-god has a crescent moon on his hat. The statues were normally of precious metal or metal plated on an armature of wood. The gods often are shown standing on animals; the storm-god may also be represented standing in a chariot drawn by bulls.

Sometimes the divine was not conceived in human form; the older Anatolian religion envisioned a pantheon of richly diverse manifestations. The *kurša*, or hunting bag, was in form an ordinary object and in function a divine representation. Made of leather instead of the more permanent wood or metal, the hunting-bag totem periodically needed replacing, which was accomplished through an interesting cult ceremony. Part of the Hittite process of rationalization of the pantheon involved not only syncretizing and ordering the hierarchy but also homogenizing the form of the gods. Such a historical development can be seen in the cult inventories, which sometimes record the replacement of a nonanthropomorphic totem with an image in the form of a man or woman as part of the state's refurbishing of the local cult.

Other representations might be zoomorphic, such as at Alaca Hüyük (pronounced Alaja Hüyük), where the storm-god is represented as a bull. Some zoomorphic images took the form of rhyta (ceremonial drinking vessels) shaped like animals. At smaller cult centers, there was no divine representation; in its place stood a stela (Hittite *huwaši*), which functioned as image and

altar and provided a focus for worship and offerings without requiring an extensive religious administration. The holy places in the cella which received offerings functioned as their own images. Like the *kurša* they were ordinary objects imbued with divinity or holiness, but unlike the *kurša* they did not function as images for a specific god but rather derived their holy nature from their close association with the god whose image stood in the cella.

THE PRIESTHOOD

Mirroring the large and diverse pantheon of the Hittite state was a complex cultic life which required the services of many types of priests. This variety stemmed from the diverse background of the Hittite pantheon and from the different cultic practices incorporated into the state religion.

The highest priests of the cult were the king and queen, and most of the major state festivals were designed to be celebrated by them. The calendar also included some ceremonies to be performed only by the queen or by a prince. The king's position as chief priest explains the extreme concern for his purity. His responsibility for performing prescribed religious ritual was perhaps the most important duty of kingship; in the Hittite mind, the most direct path to political stability lay in maintaining harmonious relations with the gods. This is exemplified by Murshili II, who in his *Annals* finds the cause of the difficulties accompanying his accession in his father's neglect of the cultic calendar and who by contrast once broke off a campaign to return to the capital for a festival.

Although any official might be called upon to take part in ritual, the state maintained a well-defined religious administration. This administration is illustrated by the *Instructions for Temple Personnel*, called collectively "the men of the temple." The ^{LÚ}SANGA, normally translated "priest," seems to be the highest religious official, followed by the ^{LÚ}GUDÚ, whose Sumerogram indicates literally an "anointed" priest. An important priestess is the ^{MUNUS}AMA.DINGIR-LIM, the "Mother of the god," the exact significance of whose title is not clear. These priests

and priestesses, in conjunction with the king and queen, performed most of the actual offerings to the gods and were thus the ones who approached the gods most directly.

Assisting these mediators was a host of support staff. Because the offerings and cultic meal were often accompanied by music, instrumentalists and singers were required. The singers were sometimes identified by their place of origin; the festival instructions often prescribe the singers of Kanesh (Nesha, modern Kültepe). The gods were also often addressed by recitations or litany, for the performance of which there were several specialized cultic offices. The liturgy prescribes not only recitations but also ritual movements such as running or kneeling.

Another important element of cultic ceremony was the presentation of offerings, and for this also a well-organized cadre served the gods. The "cupbearer" oversaw presentation of drink offerings, and the "men of the table" saw to the provisioning of the offering tables or altars. Supplying the materials which these religious officials administered were the cooks and the bakers. Other temple personnel serving these officials included those who swept up crumbs during the bread offerings and the herdsmen who tended the gods' flocks and herds.

The importance of both purity and good stewardship of the gods' resources conditioned the life of all who served the gods. The requirements of purity did not extend to celibacy, but they did restrict the temple servant's personal life. For instance, it was required that personnel not spend the night away from the temple. The priests lived in such close proximity to the gods that their behavior and its effect on the attitude of the gods toward the state was a matter of national importance.

ACCESS TO THE DIVINE OUTSIDE OF THE PRIESTHOOD

The official attitude toward the gods is the easiest to assess. But access to the divine was not limited to official priests. Private practitioners of magic, attested in their individually composed magical rituals, relied upon the gods to support or supplement their attempts to magically manip-



Silver stag-shaped rhyton with gold inlay, circa fifteenth to thirteenth centuries BCE. The frieze decorating is the vessel shown on the next page. The vessel's superb craftsmanship has led scholars to surmise that it was crafted at a court workshop.

ulate the universe. That manipulation utilized analogous magic, such as peeling an onion or untwisting strands of wool to effect the undoing of a spell. Sacrifice to the gods on behalf of individuals who required special divine attention could augment the magical analogy. Such practitioners offered sacrifice on behalf of individuals who required special divine attention.

In addition to appealing to the gods, magical practitioners might prescribe direct communication with a god by the client. This could be done through incubation, in which the client spent the night in the temple hoping for a visit from the god. The god might favor such an individual with a cure of the malady treated by the practitioner. The god might also make an unsolicited visit. Such visits often occasioned a vow to dedicate a gift of offerings or a statue to the god in



Detail of the frieze decorating the stag-shaped rhyton shown on the preceding page. The frieze shows a religious ceremony, which may suggest a possible use for the rhyton.
DRAWING BY NERIMAN TEZCAN IN S. ALP, *BEITRÄGE ZUR ERFORSCHUNG DES HETHITISCHEN TEMPELS* (1983)

response to such special revelation. Individuals could certainly offer prayers to the gods; they might in fact have personal deities. Thus persons could occasionally serve as their own priests for their personal relations with the god, just as the king served as priest on behalf of the state to ensure its relations with the divine realm.

ARCHITECTURE FOR WORSHIP

Most of the Upper City at Khattusha, built in the latter centuries of the kingdom (the fourteenth and thirteenth centuries) is filled with temples. The great temple for the highest gods dominates the Lower City. Surrounding it is a complex of storerooms, which contained archives of state documents and vessels for the foodstuffs used as offerings. The temple has a double cella for a divine couple. A large, partially preserved stone basin at the entrance to the complex provided water for the lustrations preparatory to performing a cultic ceremony. The ruins give the impression of a large, self-contained institution, an impression borne out by the temple instructions text.

The Hittite term for temple is simply the "house of the god"; a particular temple is identified as, for example, the "house of the storm-god." From the festival texts it is clear that many of the important deities of the pantheon had their own temples. The gods themselves were mo-

bile, and their images might be carried about during the course of a festival. They often congregated in one temple for ceremonies requiring offerings to many deities. From texts and excavations, we can discern the different architectural elements which made up Hittite religious architecture. A *hīlammār*, or gate house, marked the entrance to the sacred precinct. Within was a courtyard where the celebrants cleansed themselves before proceeding to the temple proper, inside which was a room with an altar, among other "holy places." Not all of the temple staff assisting in the cultic ceremony could be in the actual sanctuary; the festival texts describe the comings and goings of people such as the singers, who might come in from the courtyard, perform the liturgy, and go out again.

Although Hittite religious architecture exhibits sufficient uniformity to enable archaeologists to recognize temples, these vary somewhat in design and significantly in size. They range from large complexes to extremely small structures. Nor are temples the only type of Hittite sanctuary. Yazılıkaya is the most elaborate example of a Hittite open-air sanctuary and is evidence for the Hittite propensity for worship of the gods under the open sky. Some of the other locations around Anatolia which have rock reliefs may also have been sanctuaries; in particular Aflatun Pınar, near Beyşehir (pronounced Beyshehir), seems to have been a place of worship. Other outside foci of worship were the *huwaši* stelae and sacred groves.

THE STATE CULT

Hittite theology conceived of the gods as requiring constant manifestations of piety through offerings and worship, and this led to the development of a complicated calendar of religious festivals. Nothing angered the gods more than neglect of the required cult. Daily offerings, so fundamental as to be almost never mentioned in the religious literature, were supplemented by the series of major religious celebrations. The Hittites referred to such events as EZEN, the Sumerogram for "festival." Descriptions of these exist today on cuneiform tablets which carefully set forth procedures for a given festival. There are thousands of such tablets from the state archives, with descriptions of major festivals preserved in multiple copies. As the primary manifestation of piety at the official level, such festivals provided an opportunity for corporate worship, at least among the members of the religious establishment; they thereby reinforced the theology that had been built up over centuries of borrowing and adaptation. The resources and organization required by the constant cycle of cultic ceremony found expression in some of the Hittites' great architectural monuments, in a highly developed bureaucracy and religious economy, and in literary monuments like the *Instructions for Temple Personnel*.

The festivals existed primarily to maintain the relationship between god and mankind and to keep the channels of communication between them open. The primary means of accomplishing this was offerings. The normal festival involved first the main priest, usually the king, purifying himself and putting on the proper garments. The party of celebrants, with the priest at its head, then moved to the temple in procession. After drinking to the holy places of the temple, the priest ate a cult meal. Then came the offerings, which might go on for a very long time, because in the major festivals many gods were included, and each might receive a variety of offerings. Cereal offerings usually took the form of different kinds of bread. Drink offerings, like bread offerings, were standard procedure, usually involving beer, wine, and a variety of distinctively Hittite beverages. Meat offerings were very specifically described. The offering materials might be supplied either from the temple

stores or from the estate of some notable of the realm; the text only occasionally specifies the source. The purification and offering elements of the festival were complemented by liturgy, which might include recitation, singing, and dancing.

The Hittite festival might also involve entertainment. For the benefit of both god and man, the festivals often prescribed something to amuse, such as juggling or gymnastics. In one festival a mock battle was staged, with the "Hittites" using weapons of bronze and their opponents weapons of reed. This was perhaps a re-creation of a specific incident, an entertainment designed to please those most concerned with Hittite military superiority, or even a kind of magical playacting to ensure Hittite military success. (See "Music, Dance, and Processions in Hittite Anatolia" in Part 10, Vol. IV.)

The tremendous complexity and scope of the festivals derive from the historical development of the cultic calendar. A festival might last a few hours or go on for more than thirty days. The longer festivals were a development or adaptation of numerous less ambitious ceremonies. They involved cultic journeys in which the king and his religious entourage went on a series of processions, which might take them simply around the various temples of the capital or out into the countryside for worship at local shrines or stelae. The journey often took the procession to another city whose local cult had become part of a state festival. The entourage included not only the king and other celebrants, but also the gods, whose images were carried on wagons. Such a festival was that of the AN.TAḪ.ŠUM^{SAR} plant, which incorporated many distinct cultic ceremonies in its monthlong program.

CONCLUSION

Hittite religion represents a synthesis of a number of different religious traditions, both original and borrowed, which developed over centuries into the form which is best attested and understood: the religion of the imperial period. The complexity of the pantheon and the cult were a direct result of the many religious systems from which the Hittites borrowed. Such creative bor-

rowing and adaptation was typical of Hittite culture in general. The official state theology and cult is best known to us because it produced the documents and architecture which serve as our main sources. Our conception of Hittite theology is drawn primarily from the mythological texts, all of which originated in other cultural traditions. The oracle texts complement that theology by illustrating the Hittite belief that the gods desired to communicate with their people.

In the cult only a few select priests actually approached the gods. They did so literally, using cultic representations of the deities as their physical manifestations. The gods expected devotion, or at least attention, and the state maintained good relations with the divine through a carefully prescribed calendar of cult festivals. The focus of these ceremonies was the formal presentation of offerings to the gods. The state maintained the cult for its own benefit with the belief that it would also help the people. The great number of cultic texts found at Khattusha, their description of cultic activities in the city's temples, and the great number of those temples discovered in the city all indicate its importance not only as the political capital but also as the center of the cult. The state intentionally imported a variety of deities and their cultic traditions into the capital, and thus gods whose origins lay elsewhere, within or without the Hittite homeland, were brought together in one place. The development of the state religion had a homogenizing effect in which different local cultic practices tended to become less differentiated. For example, cult images became more consistently anthropomorphic over the course of time. However, the state's interest in local cults did not always manifest itself in the importation of such cults to the capital; in many cases it was sufficient to record local religious practice and encourage its continuation. This might involve simply an admonition to provincial governors to maintain all the local cults, or it might mean including a provincial sacred location in an official cult journey, thus giving official sanction to the local tradition.

Aside from the official theology and cult, we can glean some ideas about personal devotion to the gods. Kings and queens certainly prayed and made vows to their gods, as attested in the archives, and we may infer that others did the

same. Although not everyone could approach the deity physically by drawing near to his or her cultic statue, Hittite theology, despite insisting on an image for each deity, conceived of the gods as being approachable in other ways. Any individual could pray, and many hired practitioners to guide them in supplicating the gods for relief in crises. Thus persons not part of the official priesthood could act as intermediaries between human and divine. The god could appear to and communicate with anyone, as evidenced by the practice of incubation. Thus for the Hittites, the gods controlled a cosmos in which divinities divided up responsibility and concerned themselves with the human condition not only on the institutional level but also on the individual level.

BIBLIOGRAPHY

Sources

The *Catalogue des Textes Hittites* (1971) of EMMANUEL LAROCHE provides a system of reference to texts and information on editions. Many religious texts are translated in the Hittite sections of the anthology *Ancient Near Eastern Texts Relating to the Old Testament*, edited by JAMES B. PRITCHARD (1955; 3rd ed. 1969). See also ALBRECHT GÖTZE, "Die Pestgebete des Muršiliš," *Kleinasiatische Forschungen* 1, no. 2 (1929); HANS G. GÜTERBOCK, "The Composition of Hittite Prayers to the Sun," *Journal of the American Oriental Society* 78 (1958); HARRY A. HOFFNER, JR., *Hittite Myths* (1991), and "The Hurrian Story of the Sungod, the Cow and the Fisherman," in *Studies on the Civilization and Culture of the Nuzi and the Hurrians in Honor of Ernest R. Lacheman*, edited by M. A. MORRISON and D. I. OWEN (1981); RENÉ LEBRUN, *Hymnes et prières hittites* (1980); HEINRICH OTTEN, *Das Gelübde der Königin Puduḫepa an die Göttin Lelwani* (1965); and MAURICE VIEYRA, "Les textes hittites," in *Les Religions du Proche-Orient asiatique*, translated by RENÉ LABAT (1970).

Studies

OLIVER R. GURNEY, *Some Aspects of Hittite Religion* (1977); HANS G. GÜTERBOCK, "Hethitische Götterbilder und Kultobjekte," in *Beiträge zur Altertumskunde Kleinasien*, vol. 1, edited by R. H. BOEHMER and H. HAUPTMANN (1983), "Hittite Mythology," in *Mythologies of the Ancient World*, edited by SAMUEL NOAH

KRAMER (1961), "Hittite Religion," in *Forgotten Religions* (n.d.), "The Hittite Temple According to Written Sources," in *Compte Rendu de la Rencontre Assyriologique Internationale* 20 (1972), "An Outline of the Hittite AN.TAH.ŠUM Festival," *Journal of Near Eastern Studies* 19, no. 2 (1960), "Religion und Kultus der Hethiter," in *Neuere Hethiterforschung*, edited by GEROLD WALSER (1964), "Some Aspects of Hittite Festivals," in *Actes de la XVIIe Rencontre Assyriologique à Bruxelles 1969*, and "Some Aspects of Hittite Prayers," in *The Frontiers of Human Knowledge*, edited by TORGNY T. SEGERSTEDT (1978); VOLKERT HAAS, *Der Kult von Nerik* (1970); HARRY A. HOFFNER, JR., "Hittite Mythological Texts: A Survey," in *Unity and Diversity*, edited by HANS GOEDICKE and J. J. M. ROBERTS (1975), "Hittite Religion," in *The Encyclopedia of Religion*, edited by MIRCEA ELIADE, vol. 16 (1987), "Incest, Sodomy and Bestiality in the Ancient Near East," in *Orient and Occident*, edited by HARRY A. HOFFNER, JR. (1973), and "The Song of Silver—A Member of the Kumarbi Cycle of 'Songs,'" in *Documentum Asiae Minoris Antiquae*, edited by ERICH NEU and CHRISTEL RÜSTER (1988); PHILO H. J. HOUWINK TEN CATE, "Brief Comments on the Hittite Cult Calendar: The Outline of the AN.TAH.ŠUM Festival," in *Kaniššuwat*:

A Tribute to Hans G. Güterbock, edited by HARRY A. HOFFNER, JR., and GARY M. BECKMAN (1986), and "Hittite Royal Prayers," *Numen* 16, no. 2 (1969); ARVID S. KAPELRUD, "The Interrelationship Between Religion and Magic in Hittite Religion," *Numen* 6, no. 1 (1959); V. KOROŠEC, "Einiges zur inneren Struktur hethitischer Tempel nach der Instruktion für Tempelleute (KUB XIII 4)," in *Anatolian Studies Presented to Hans Gustav Güterbock on the Occasion of His 65th Birthday*, edited by K. BITTEL et al. (1974); S. KOŠAK, "The Hittite nuntarrijašḫaš Festival (CTH 626)," in *Linguista* 16 (1976); EMMANUEL LAROCHE, "Recherches sur les noms des dieux hittites," *Revue Hittite et Asianique* 7, no. 46 (1946–1947); GREGORY MCMAHON, *The Hittite State Cult of the Tutelary Deities* (1991); PETER NEVE, "Hoftürme in den hethitischen Tempeln Hattusas," in *Istanbul Mitteilungen* 17 (1967), and "Die Kulträume in den hethitischen Tempeln Hattusas," in *Festschrift Heinrich Otten*, edited by ERICH NEU and CHRISTEL RÜSTER (1973); FRANCA PECCHIOLO DADDI, *Mestieri, professioni e dignità nell' Anatolia ittita* (1982); ITAMAR SINGER, *The Hittite KILAM Festival* (Part 1, 1983; Part 2, 1984); JOHANN TISCHLER, *Das hethitische Gebet der Gassulijawiya* (1981); and ILSE WEGNER, *Gestalt und Kult der Ištar-Šawuška in Kleinasien* (1981).

SEE ALSO *Theologies, Priests, and Worship in Ancient Mesopotamia* (Part 8, Vol. III); *From Hittite Mythology: The Kumarbi Cycle* (Part 8, Vol. III); *Hittite Witchcraft, Magic, and Divination* (Part 8, Vol. III); *Death and the Afterlife in Hittite Thought* (Part 8, Vol. III); and *Hittite and Hurrian Literatures: An Overview* (Part 9, Vol. IV).

Hittite Prayers

JOHAN DE ROOS

LIKE ALL PEOPLES IN antiquity, the Hittites accepted the belief that their weal and woe depended totally on the disposition of the gods. Should the gods be in a benevolent mood, mankind fared well; but should one or more of the many gods be displeased, dire consequences would follow, whether instantly or over the course of time.

The sinful human being never escapes the manifold penalties that the gods have in store for him. Even sons may suffer as a result of sins unavowed and unatoned for by their fathers, since no reconciliation between man and god has been brought about. Should the sinner be a king, then the entire empire suffers direct consequences until he has acknowledged in prayer the errors committed and placated the offended deity through hymns of praise, expiatory sacrifices, or vows. The cause of the divine wrath and the identity of the angered god are ascertained, if possible, by oracular questioning, this knowledge being essential to restoring the original situation. Under normal circumstances, one may also address a deity to enlist divine support for a certain action, even a course of action covering a lengthy period of time.

In his annals, Murshili II (circa 1325 BCE) mentions that at the beginning of his reign he invoked the sun-goddess of Arinna before starting a war against rebelling neighbor states: "Sun-Goddess of Arinna, my mistress, side with me and defeat for me those hostile neighbors who regularly disparaged and humiliated me and forever were bent on taking possession of your terri-

tories, O Sun-Goddess of Arinna, my mistress." The goddess hears this prayer and takes Murshili's side, after which he defeats the countries in question in the course of ten years.

Although prayers are often part of a complex of propitiatory actions and therefore also occur in other types of texts, such as rituals and oracles, here we shall focus on texts of prayers that have been preserved independently. However, we will not ignore the other types altogether. It should be said in advance that only official texts, sanctioned by the state, have come down to us. We lack utterances by individuals who did not participate in state functions, and consequently, we do not have at our disposal any prayers of private persons. Yet, no doubt, individuals in times of need would have addressed themselves to the gods in a similar fashion.

Frequently, we know the name of the king (and sometimes also of the queen) for whom a prayer was written, which is seldom the case with other types of texts. From the colophon of a prayer by King Muwattalli II (circa 1300), we might infer that the prayer was taken down verbally from the king's mouth. Others interpret it to mean that the prayer was recorded on the king's instruction. We should not automatically conclude, however, that kings were the actual authors; priests, scribes, or others may very well have formulated the prayers on the basis of older examples, although one can certainly visualize the king in his role of high priest as the composer of a prayer.

In any case, we can state that in earlier times

prayers were recited before the king, whereas from about 1400 the king began to say them himself. In addition, we can observe a continually increasing direct involvement of the king (and queen) with the contents of the prayers. As time passes, the prayers become ever more personal and clearly less traditional and standardized, culminating in the highly intimate prayers of the royal couple Khattushili (Hattusili) III and Pudukhepa.

Each offering to the gods would have been accompanied by a prayer, which may have comprised both a petition for good things and a request to be spared disasters. Propitiating the gods, even in advance, is a perpetual need, and a hymn of praise without a direct request may be part of that. A curse in the text of a treaty directed at any person who does not honor the pact may also be regarded as a form of prayer, since the gods were called on as witnesses at the treaty's conclusion.

Because we have only relief representations of persons engaged in sacrificial offerings, we do not know exactly the posture or gestures that accompanied prayer, nor do texts provide us with direct information on this point. At the beginning of the Annals of Murshili II we do find that the supplicant raises his hand(s) toward the deity: "And to the Sun-Goddess of Arinna, my mistress, I raised my hand and I spoke as follows," after which the prayer translated above is recorded. This gesture is probably to be distinguished from the raised right fist topped by the thumb, which can be seen on several reliefs as a salutation to a deity. However, many texts also mention that he who prays "goes down on his knees" before the god. Apparently this can be taken literally, because the king rises afterward, and "on the floor" is added to the verb.

It was said above that bad circumstances for mankind develop ordinarily from a human infraction against the order desired by a god. However, the wrath of the storm-god of Khatti, the principal god of the pantheon, could have detrimental consequences for the human world when aroused by the anger of another god or of divine mountains, rivers, or springs. The "ancient" gods, the judges in the underworld, are thus asked by Muwattalli II in the above-mentioned prayer to placate the storm-god. In addition, the

sun-god of heaven, as witness of all that happens, is begged to dispel the wrath of the storm-god. Yet, the entire prayer is permeated with concern that the gods had not received sufficient human attendance because of the loss of large parts of the empire: "The country was large, but it became small." We know that, for reasons of safety, Muwattalli II transferred the seat of government from the country's capital, Khattusha, to the southeast, to Tarkhuntassha, at least once. In this prayer to the storm-god of Kummanni, Muwattalli promises to serve the gods again as of old, once the previous situation has been restored. Thus, he seeks verbal and written sources for information on former cultic practice: "People now living and (already) living in my father's and grandfather's time I shall interrogate, and whatever I, the king, shall find in hieroglyphic inscriptions, all this I shall (duly) carry out." Uncertainty and ignorance with regard to the exact religious practices, as well as circumstances beyond his control, such as foreign invasions, appear to have been responsible for the neglect of the gods.

It also seems likely that the king was not familiar with the specific cult in Hurrian Kummanni (region of Kizzuwatna). Nowhere in the prayer is there any reference to the land of Khatti, but rather always to "the land" or "the lands," and twice "the land (of) Kummanni" is explicitly mentioned. In any case, neglect of the storm-god of Kummanni did have consequences for the entire land of Khatti. Nonetheless, the most important elements in a prayer—and this is also what Muwattalli starts with—are the acknowledgment of offensive conduct and the avowal of sins: "We have called the Storm-god, lord of heaven and earth, king of the gods, and we confess to him openly our offense and sin."

These latter words occur in the same combination in Hurrian texts and in a ritual in Hittite, showing Hurrian influence, but not in other Hittite prayers. Also, the many Hurrian names of deities which are mentioned in the prayer clearly take us to originally Hurrian territory. Kizzuwatna (later Cilicia), which may be considered Hittite territory since Shuppiluliuma I (circa 1375), played an important role in the introduction of many elements of the Hurrian religion into the Hittite Empire; indeed, all queens,

many princes, and one king thereafter assumed a Hurrian name. In the prayer's colophon the entire text is characterized as an *arkuwar*, that is, "a plea," while in the text itself Muwattalli also thus refers to his intervention with the gods.

THE NATURE OF HITTITE PRAYERS

After a first effort by Oliver Gurney in 1940, the various classifications of prayers were most clearly defined by Emmanuel Laroche and, for the royal prayers, by Philo Houwink ten Cate. The following types can be distinguished: (1) *arkuwar*, the above-mentioned prayer of defense; (2) *mugawar*, an invocation of a deity to approach, often combined with a ritual indicating the route to be followed by the god and thus serving to attract him or her; and (3) *walliyatar*, a general praise in the form of a hymn. Although a *wekuwar* (meaning "request" or "demand") is sometimes mentioned in the literature as a type of prayer, both times that it occurs in a prayer of Queen Pudukhepa it carries the meaning of "request." Obviously, all these types can also be found combined in a single text.

Arkuwar

Beginning with Murshili II, most prayers have as their most important feature the defensive nature of an *arkuwar*: his own prayers to dispel an epidemic, the two prayers of Muwattalli II, and several prayers of Khattushili III and Pudukhepa. However, older prayers also reflect this attitude, such as the prayer by the couple Arnuwanda and Ashmunikal (circa 1410) regarding their inability to meet their religious obligations in the northern part of the country.

In all cases, the speaker defends himself in terms also current in the law court, addressed directly or indirectly to the supreme judge, the sun-god of heaven, who administers justice on a daily basis. As expressed by Muwattalli II: "Sun-god of heaven, my lord, Shepherd of mankind. You rise, Sun-god of heaven, my lord. Daily you sit in judgment upon man, dog, pig, and the wild beasts of the field." And similarly,

to the sun-god: "The inspired lord of justice are you, and in the place of justice you are untiring."

The supreme judge passes judgment amidst the other gods serving as judges: "The gods who come to the place of judgment." Given the prevalence of such views, it can be easily understood that almost juridical arguments are given by the person who prays in his own defense. The most striking ones are those pronounced by Murshili II: "There was a tablet about Egypt. To this tablet I did not add one word and I did not take out one. O gods, my lords, look. I do not know whether any of those who were kings before me added a word then or took one out. I do not know anything and I have not heard afterwards." Further on in the same text the king defends himself: "And the king of Egypt died in those days. But I was still a child and did not know whether the king of Egypt made a request." Murshili's innocence thus becomes irrefutable: he was not involved in drafting the text of the treaty between the Egyptians and the Hittites, and errors cannot be imputed to a child. It is interesting to note, though, that in a later prayer to suppress the same epidemic disease that for twenty years plagued the land of Khatti, Murshili does accept responsibility by acknowledging that a sin is transferred from father to son, so that he himself is also burdened with sin.

We see another good example of a juridical exculpation from guilt in a prayer by the couple Khattushili and Pudukhepa. (See the essay "Khattushili III, King of the Hittites" in Part 5, Vol. II.) Here the king stresses that he raised the storm-god's city of Nerik—a cult center, neglected for decades by previous kings—like a stone from water and made it flourish again: clearly, a good reason for the gods to be favorably inclined toward him! At the beginning of the prayer, Khattushili has already cleared himself of all offenses possibly committed by his father, using the same incontestable argument used earlier by Murshili himself: "I was not involved in any of those events, because I was only a child."

We can be certain that the administration's careful preservation of the tablets made writers familiar with earlier prayers. Furthermore, because in historical texts we can clearly follow the use of the *arkuwar*, Emmanuel Laroche's

conclusion is fully warranted that the Hittites expressed their relations to the gods not in terms of grateful sentiments, but in terms of justice and juridical judgment. In historical texts, the *arkuwar* occurs in the same fashion as in isolated prayers. For instance, when Murshili has to decide in a dispute between his subordinates, including a vassal king who had concluded a treaty with the Hittites, both parties pronounce their defense, their *arkuwar*, in the presence of the king. An interesting detail here is the remark that the tablet with the account of this dispute would not receive the royal seal if it did not contain both defenses. Likewise, recurrent expressions in prayers such as “to submit a case” and “to institute an inquiry” have been derived from secular law courts.

The correspondence between a secular and a divine lawsuit becomes even more obvious when we look at the mutual relationship of the protagonists: a servant (or a vassal) relates to the master (or king) in the same manner as the king to the deity. The best illustration of this is found in the second plague prayer of Murshili II:

See, to the Storm-god, my lord, I make the matter of the plague into a plea. Listen to me, O Storm-god of Khatti, my lord, and save my life. And this I tell you: a bird takes refuge in his nest and the nest saves his life. In the same way: if something is too heavy for a servant, he makes his plea to his master, and his master will listen to him and have mercy, and what was too heavy for him he sets right for him. Or if some servant has sinned but confesses it before his master, then his master may do to him whatever he does. But because the servant confesses his sin before his master, his master's mind will be reconciled and his master will not hold his servant responsible. And I have confessed my father's sin: it is true, I did it. (Translation mine; see Albrecht Goetze, “Hittite Prayers,” in *Ancient Near Eastern Texts*, pp. 395–396.)

This prayer gives the impression of having been written by Murshili himself, and he speaks about his own plea as that of a servant to his master, the storm-god. As the servant will be pardoned by his master upon his confession, thus also Murshili must be pardoned by the gods after his confession. The plague prayers, incidentally, are among the masterpieces of Hittite literature, but as far as some parts are concerned, they are likely to have been composed on the basis

of older ones, in some cases following Mesopotamian examples. The author's license then leads nonetheless to very personal utterances.

Mugawar

Just as prayers in the colophon or in the text itself can be categorized as *arkuwar*, *mugawar* can characterize the part of the text in which a supplicant addresses the gods. Because in three different trilingual glossaries (Sumerian-Akkadian-Hittite) *mugawar* was identified with words expressing a desire, lament, or prayer, it took until 1940 (with Gurney) before the more basic meaning of the *mugawar* was recognized. The word indicates both the urgent appeal to the god to come near or to listen, and the ritual involved; indeed, *mugawar* means “(the ritual of) evocation,” “invocation,” and “entreaty.” The word also implies the purpose of the invocation—namely, to activate the deity, to reverse his hostile attitude, and to move him to stand behind the supplicant. To entice the deity, a large vessel with grain was opened during the ritual, and raisins, figs, malt, and other ambrosian delicacies were typically offered.

Whereas the *arkuwar* did not occur before Murshili II, the *mugawar* is present in much older Hittite texts. In a hymn to the sun-god Ishtanu, one of the oldest extant hymns, we read, “O Sun-god, my lord, just lord of judgment, king of heaven and earth. You are ruling the lands. You alone give strength. You alone are just, you alone always have mercy, you alone act upon invocations (*mugawar*), you alone are a merciful Sun-god and you alone have mercy.”

In another Old Hittite text, while not a prayer but part of a magic ritual to appeal to the storm-god, the entreaty for divine attention is explicit: “Let these words of evocation be falling upon you. Turn your ear and listen to what king and queen say to you.” Understandably, the more personal plea-prayer only appears when the king, and sometimes the queen, compose or commission a prayer for a specific situation and then also recite it. The *mugawar*, in contrast, already occurs in earlier times, when a text composed by the king, but applied in a general sense, was addressed to the gods by a priest.

With this group may thus also be included the prayer to the sun-goddess of the earth (the sun that spends the night inside the earth), pro-

nounced on behalf of the king by the officiant. In the prayer, the goddess of the underworld is adjured to be favorably disposed toward the king, and not to listen to slander or insults, especially by the king's relatives. It is noteworthy that the sun-goddess of the earth has her own protective deity to serve as mediator between the king and herself. He is invited to eat and drink and asked to speak kindly of the king to the sun-goddess, and not to listen to slanderers. A part of this prayer follows:

Look, O Sun-goddess of the earth, the king entreats you personally. (Three lines damaged.) If his father denounced him, you, do not listen to him. If his mother denounced him, you, do not listen to her. If his brother denounced him, you, do not listen to him. If his sister denounced him, you, do not listen to her. If his in-law, his friend, denounced him, you, do not listen to him. Incline your good eyes, lift your thousand eyelashes and look in a friendly manner at the king: incline your ear and listen to the good word. Pay attention (?) to your servant and free him from the evil. . . . Put him in a good place and let there be growth in the country. And let it thrive and prosper. And for the gods let the bread and the wine thrive! (After H. G. Güterbock, "The Composition of Hittite Prayers to the Sun," *Journal of the American Oriental Society* 78, p. 128)

The repetition of phrasing at the beginning is a literary stylistic device frequently used for emphasis. In the following parts of the text, many servants and auxiliary deities of the sun-goddess, such as the above-mentioned protective deity, are successively invoked in similar fashion, as ultimately also her adviser, the chief of the eunuchs, the chief of the barbers, and the deified courtyard. All are mediators or intercessors between the king and the sun-goddess.

The role of mediator between the person who prays and the god for whom the prayer is intended is significantly assigned to the sun-god himself in the magnificent prayer addressed by Prince Kantuzzili, an older contemporary of King Shuppiluliuma I, to his personal god. This is obviously a god of the underworld, as the sun-god is asked to intercede when he descends to earth. In order to placate the sun-god, the prayer starts with a hymn to this god in which many Babylonian elements can be recognized and which in its composition clearly has been influ-

enced by, but not literally translated from, a hymn to the Babylonian Shamash (Hittite Ish-tanu). The phenomenon of the mediator also derives from Mesopotamia, but rarely or never will the supreme deity there be asked to look for a lower god and then serve as mediator himself.

Walliyatar

As already intimated above, especially—but not solely—the older prayers start with a hymn of praise marked by a strong literary tenor. From the verb *walliya*, "to praise," the rarely occurring word *walliyatar* has been formed, which possibly represents the noun for "hymn of praise." It is an almost independent part of a prayer that, precisely because of its general nature, can be used often and even for a god or goddess different from the one for whom the hymn was originally composed.

In prayers it is often mentioned, in the absence of the actual hymn, that someone will praise a deity. Thus, the beginning of a prayer by Murshili II to the god Telipinu says, "The scribe reads this tablet to the deity every day and praises the god. O Telipinu, a noble and important deity are you. Murshili, the king, your servant, and the queen, your handmaid, have sent me (with the instruction): 'Go and entreat Telipinu, our lord, our personal god.'" And in the prayer by Muwattalli II to the storm-god pikhashasshi we find a beautiful rhetorical question: "To whom is praise due, if praise is not due to the storm-god pikhashasshi?"

It is, in particular, the hymnic parts of the Hittite prayers where influence from Mesopotamia is most evident. Even though the Anatolians gave their prayers a form very much of their own and there are no large parts that had been literally translated, still the characteristics and power ascribed in Akkadian texts to the sun-god Shamash, for instance, can be found in exactly the same way in Hittite prayers. We may even point out that the hymn for Shamash has been changed by the scribes in Khattusha (modern Boğazköy or Boğazkale) into a hymn (with prayer) to the sun-goddess of Arinna. In fact, an independent hymn without a prayer does not occur with the practically inclined Hittites. The transition from a hymn to the sun-god (or goddess) into a prayer to the personal god of the individual is often cleverly brought about by

asking the sun-god (or goddess) to convey the prayer to the personal god; for instance, in the prayer of Kantuzzili, “a king” and that of “a mortal.” Especially under Murshili II, already existing hymns were integrated, with the proper adaptations, into prayers to dispel an epidemic disease and all related disasters.

In the actual plague prayers, which are addressed directly and almost impatiently to the gods of Khatti with the explicit request to halt the epidemic, these literary hymn passages are missing. From the hymn that has been inserted into a prayer to the sun-goddess of Arinna, the first five lines do not appear to derive from the old Shamash hymn, but the same lines are found in exactly the same way in the prayers from Murshili to Telipinu. The rest of the hymn to the sun-goddess is then again almost literally the same as the Shamash hymn, and the writer was even so much influenced by it that he left the male “lord” designation appropriate for the sun-god, though addressing himself to the goddess: “You alone are the lord of just judgment.” The Shamash hymn reads, “O Sun-god, my lord, just lord of judgment.” On the other hand, some lines mentioning typical male characteristics, such as “O Sun-god, you are truly the grown-up son of Ningal! Your beard is of lapis lazuli,” have been left out and have not been replaced by a female substitute.

In 1980, Hans Güterbock made an excellent and detailed comparison of these hymnic passages with reference to the contents of a tablet—discovered in 1962 but then still unpublished—that is linked to a part of the prayer to the sun-goddess of Arinna, already long known. The new fragment is of importance, in particular because it contains the transition to the specific personal prayer to halt disasters, and shows that Murshili’s scribes ended the hymn at a point where the old sun-god/Shamash hymn still continues. Thus, a new prayer was composed that makes a harmonious impression, but of which perhaps only the authors themselves knew that parts of it derived from older literature.

Such literary activities were not an isolated phenomenon. From the period before Shuppiliuma, we discover prayers sharing Middle Hittite characteristics. Bearing in mind the evidence from Murshili’s time, we also see that around 1400 the same Shamash hymn was used

for various prayers that, together with Kantuzzili’s prayer, belong to one and the same category—the *walliyatar*.

Running largely parallel and allegedly spoken by Kantuzzili, by a king and by a mortal, respectively—these prayers are all thought to have started with the well-known Shamash hymn; but the opening part has only been preserved in the “mortal” version. However, in other respects—in motifs and motivations—Akkadian prayers are traceable as basis and example.

To conclude, we may say that a single Babylonian sun hymn has been used in a great many prayers, from the first complete Hittite version, in which distinctive Hittite elements have been incorporated and which can be dated to the period before Kantuzzili, until Khattushili III and Pudukhepa (circa 1275) addressed themselves in a more direct way to the sun-goddess of Arinna and other deities.

The above may have created the impression that there is no directly translated literature in the field of prayers. However, we have an Akkadian version of a prayer to Ishtar containing innumerable mistakes, as well as the Hittite translation on another tablet. There is also a hymn to the storm-god Ishkur, with parts of the original Sumerian text and a partially extant Akkadian and Hittite translation: hence, a trilingual. In addition, there is a hymn to the storm-god Adad, of which the origin goes back to Old Hittite times (as is evident from the usage of language) and, hence, to the Old Babylonian period. This is equally clear from the many Babylonian elements contained in the text. However, nothing has yet come down to us of the supposed Akkadian original.

A CLOSER LOOK AT A FEW PRAYERS

More interesting than an analysis of the construction of the prayers that, with the exception of the hymns discussed above, cannot be classified within the framework of a systematic structure is an analysis of the way in which attempts are made—through style and linguistic usage, as well as by a specific attitude toward the gods—to reach certain goals that may differ for each indi-

vidual. We see various sentiments expressed in prayers: Murshili II's indignation about the injustice inflicted on him by the gods; Muwattalli II's direct avowal of guilt and his own mistakes; and the self-assured attitude of the priest's daughter Pudukhepa, who, also by the promise of gifts, in a very personal manner tries to obtain the desired health of her husband Khattushili III. It must be said in advance that political circumstances varied widely for all concerned, as did, naturally, the nature and identities of the gods to whom these prayers were addressed.

Murshili II

In his second plague prayer, Murshili II goes straight to the point:

Storm-god of Khatti, my lord, and you gods of Khatti, my lords. Murshili, the great king, your servant, has sent me (saying): "Go and tell the Storm-god of Khatti, my lord, and the gods of Khatti, my lords, the following: This is what you have done: you have let into the heart of Khatti a plague. And the land of Khatti has been afflicted very badly by the plague. In my father's days, in my brother's days, people died, and also since I became a priest of the gods, now, also in my days, people are dying. This is the twentieth year. And while people are dying in the heart of the land of Khatti, the plague has not at all been taken out of the land of Khatti. But I cannot overcome the worry of my heart and I can no longer overcome the anguish of my self. (After Goetze, "Hittite Prayers," in *Ancient Near Eastern Texts*, p. 394)

The king then relates that he has already prayed to all the gods, and then the prayer for relief follows. However, the gods did not listen, and even the few people left to offer the gods their bread fell prey to the disease. It all became too much to bear for Murshili. After already having prayed in vain for an omen, a dream, or a message from a "god-man," he learns about two texts with historical contents that make it clear to him that he has neglected an offering to a river (-god); moreover, although in the presence of the storm-god of Khatti a treaty had been concluded concerning people from Kurushtama who had gone to Egypt, his father, Shuppiluliuma, had attacked Egyptian territory in defiance of this pact. Prisoners of war from Egypt had afterward been the cause of the lethal disease in the land of Khatti.

After this is established as the cause of the plague through an oracular question, Murshili confesses his guilt to the storm-god: "See now, before the Storm-god I have confessed my sin: It is true, we have done it. But the offense was not committed in my days but in the days of my father. That I know for certain." Next, he promises to make the river sacrifice and returns to the subject of sin:

Storm-god of Khatti, my lord, you gods, my lords, it is true, man is sinful. My father also sinned and transgressed against the word of the Storm-god of Khatti, my lord. But I have not sinned in any respect. It is so: the sin of the father falls upon his son. So my father's sin has fallen upon me. (After Goetze, p. 395)

Following this is the part given in translation above under the discussion of *arkuwar*, whereupon the gods are again admonished not to let all their servants—those who offer them meat and drink—die. "It is in your own interest, please save my life and let the plague be taken out from the land of Khatti." It must be stated that the six or more prayers dedicated by Murshili to the plague and other disasters had their effect: the prayer quoted above, which is among the last, was written in seventeenth year of his reign, which lasted thirty-three years.

Muwattalli II

The cautious Muwattalli II approached the gods in a very different way. The statement in the prayer "when it all becomes too much for a man to bear" is incorporated in a sacrificial ritual with carefully defined offerings to the sun-god. There he first invokes the principal gods of the pantheon:

Now, O gods, listen to the words of me, your priest, your servant. I will straight-out present my personal prayer of defense about you, lordly gods, about your temples and your images: how the gods of the land of Khatti are worshiped and how they are offended. Thereafter, I shall make into a plea the matters of my own soul, and O gods, lords, incline to me your ear. Listen to these prayers. And what matters I present to the gods, lords, as a plea, receive these matters and listen to them. But those matters which I present to you as a plea and which you do not wish to hear, (think that) they proceed from my mortal mouth and you gods, lords, refrain from listening to those. (After Goetze, p. 398)

A similarly prudent approach is found a little later: a long list follows with the names of a few hundred gods, who all—even those not mentioned!—are asked to listen. Besides providing interesting geographical data, since the gods have been arranged according to their cult centers, this enumeration proves that the Hurrian cult had penetrated into the heart of Anatolia.

There next comes a fragment of the already familiar hymn to the sun-god, who has to summon all the gods, followed by the actual prayer to the personal guardian, the storm-god *pikhashashshi*:

Storm-god *Pikhashashshi*, my lord, I was a mortal. Yet my father was priest of the Sun-goddess of Arinna and of all the gods. My father begat me. But you, Storm-god *Pikhashashshi*, took me from my mother and raised me. You made me priest of the Sun-goddess of Arinna and of all the gods. You made me king of the land of Khatti. (After Goetze, p. 398)

A little further on, Muwattalli speaks to his god:

Take my words, the words of my tongue, of Muwattalli, your servant, and make them full for the gods. And let them not change afterward the words of my prayer. The bird takes refuge in his nest and he lives. I took refuge with the Storm-god *Pikhashashshi*, my lord, so save my life! (After Goetze, p. 398)

The metaphor of the bird that finds refuge in its nest was used by his father, Murshili. In addition, Muwattalli promises that everyone will later laud and honor *Pikhashashshi* and that he will also be pleased with the new temples to be built and with the homage paid to him, when he will have banished the evil from Muwattalli's heart and will help him in the future: "Storm-god *Pikhashashshi*, my lord, wax over me like the moon and shine above me like the Sun-god of heaven. Walk with me on my right hand, rally to me as to an ox for pulling." The last fifty lines deal with all the offerings of meat and drink for the various gods.

Pudukhepa

The third prayer, which also serves to conclude this survey, is the prayer addressed independently by Queen *Pudukhepa* to the sun-goddess of Arinna and four gods from her circle, including the storm-god of Nerik. Her request

is to cure her husband *Khattushili III* from ailments from which—as we can infer from many texts—he suffered chronically. (See "Khattushili III" in Part 5, Vol. II.) *Pudukhepa* argues that her husband, even at the risk of his own life, played a worthy part in the recapture and reconstruction of Nerik, the storm-god's beloved city.

The opening words of the prayer are brief and to the point, comparable to the beginning of a letter, and have a modern flavor in comparison to the preceding prayers:

To the Sun-goddess of Arinna, my mistress, mistress of the lands of Khatti. Queen of heaven and earth. Sun-goddess of Arinna, my mistress. Queen of all countries, in the land of Khatti you chose for yourself the name Sun-goddess of Arinna: but, furthermore, in the land that you made the cedar's land, you chose for yourself the name *Khepat*. I, *Pudukhepa*, I am your servant from of old, a heifer from your stable, but a foundation stone for you. (After Goetze, p. 393)

This introduction clearly shows *Pudukhepa*'s self-assurance, already referred to. Of interest also is the example of official syncretism between the Anatolian sun-goddess of Arinna and the leader of the Hurrian female pantheon, *Khepat*. The entire text is above all a defense of, and plea for, her husband, who, of course, has only done good deeds. Therefore, this is a typical instance of an *arkuwar* prayer, as indeed it is called by *Pudukhepa* herself. Altogether, it is lively, sometimes defiant, and comprises adages, quotations, and vows. Noteworthy are the account of historical events and the description of the political situation in which *Khattushili*, partly through his own doings, was involved. Quoting an aphorism, *Pudukhepa* twice cleverly stresses her pregnancy, "which, as is well known, always puts the gods in a benevolent mood." To conclude, and to illustrate these points, a few passages from her prayer follow:

And how he (*Urki-Teshub*) sent *Khattushili*, your servant, to Nerik, that you know, O sun-goddess, and how he chased him (= *Khattushili*), and the princes warned him: "You are going to die for Nerik," that you know. But he counted his own ruin and his own death for nothing.

O Sun-goddess of Arinna, my mistress, yield to me and listen to me. Among men at any rate there

is a saying: "To a woman in travail a god is benevolent." I, Pudukhepa, am a woman in travail and because of your son I have given myself; therefore, O Sun-goddess of Arinna, my mistress, yield to me.

And if you, Liliwani, my mistress, speak favorably to the gods and save your servant Khattushili and give him long years, months, and days, then I will come and I will make for Liliwani, my mistress, a life-sized silver statue of Khattushili. (After Goetze, pp. 393-394)

With this vow made in a prayer, this brief survey of Hittite prayers must be brought to a conclusion—a survey that has naturally had to remain limited to that very small extant fraction of all prayers ever spoken in the land of Khatti.

BIBLIOGRAPHY

Because of the rapid development of Hittitology, the sources are presented here in chronological order:

ALBRECHT GÖTZE, "Die Pestgebete des Muršiliš," *Kleinasiatische Forschungen* 1, no. 2 (1929); GIUSEPPE FURLANI, *La religione degli Hittiti* (1936); O. R. GURNEY, "Hittite Prayers of Mursili II," *Annals of Archaeology and Anthropology* 27 (1940); JOHANNES FRIEDRICH, "Ein hethitisches Gebet an die Sonnengöttin der Erde," *Rivista degli Studi Orientali* 32 (1957); HANS G. GÜTERBOCK, "The Composition of Hittite Prayers

to the Sun," *Journal of the American Oriental Society* 78 (1958); EMMANUEL LAROCHE, "La prière hittite: vocabulaire et typologie," *École pratique des hautes études: Section des sciences religieuses* 72 (1964-1965); PH. H. J. HOUWINK TEN CATE and F. JOSEPHSON, "Muwatallis' Prayer to the Storm-God of Kummanni (KBo XI 1)," *Revue hittite et asianique* 25, no. 81 (1967); PHILO H. J. HOUWINK TEN CATE, "Hittite Royal Prayers," *Numen* 16 (1969); ALBRECHT GOETZE, "Hittite Prayers," in *Ancient Near Eastern Texts Relating to the Old Testament*, edited by JAMES B. PRITCHARD (1950; 3rd ed. with suppl. 1969); CORD KÜHNE, "(C) Hethitische Texte, II Gebete," in *Religionsgeschichtliches Textbuch zum Alten Testament*, edited by W. BEYERLIN, *Grundrisse zum Alten Testament*, vol. 1 (1975); HANS G. GÜTERBOCK, "Some Aspects of Hittite Prayers," in *The Frontiers of Human Knowledge*, edited by T. T. SEGERSTEDT (1978), and "An Addition to the Prayer of Muršili to the Sungoddess and Its Implications," *Anatolian Studies* 30 (1980); RENÉ LEBRUN, *Hymnes et prières hittites* (1980); DIETRICH SÜRENHAGEN, "Zwei Gebete Ḫattušilis und der Pudukhepa: Textliche und literaturhistorische Untersuchungen," *Altorientalische Forschungen* 8 (1981); JOHAN DE ROOS, "Drie hittitische gebeden," in *Schrijven en Verleden: Documenten uit het oude Nabije Oosten vertaald en toegelicht*, edited by K. R. VEENHOF, *Medelingen en Verhandelingen* 24 (1983); and ONOFRIO CARRUBA, "Saggio sulla preghiera etea (a proposito di CTH 376)," in *Studi orientalistici in ricordo di Franco Pintore*, edited by ONOFRIO CARRUBA, MARIO LIVERANI, and CARLO ZACCAGNINI, *Studia Mediterranea* 4 (1983).

SEE ALSO Lamentations and Prayers in Sumer and Akkad (Part 8, Vol. III) and Death and the Afterlife in Hittite Thought (Part 8, Vol. III).

Hittite Witchcraft, Magic, and Divination

GABRIELLA FRANTZ-SZABÓ

MAGIC CONFRONTS A NATURAL WORLD that is permeated with supernatural forces for good or evil. It is a reasoned system of techniques for influencing the gods and other supernatural powers that can be taught and learned. The link between magic and the cosmos allows gods and humans to cooperate; the line between magic and religion is thereby obliterated, a fact that was not recognized by earlier scholarship. We may affirm that magic can hardly exist without a religious stamp, nor religion without magic. Rituals, incantations, sacrifices, and prayers rest on a common basis whose elements cannot be separated from one another.

Magic is a praxis, indeed a science, that through established and for the most part empirical means seeks to alter or maintain earthly circumstances, or even to call them forth anew. Magic not only manipulates occult forces but also endeavors to master the higher supernatural powers with which religion is concerned. Magic is thoroughly obvious for the magician. However, it is not the property of everyone, but only of those with special knowledge. On the whole, witchcraft, like magic, may perhaps be considered from the special viewpoint of an art practiced professionally by one with a talent for it, in order to help or harm fellow human beings and superior forces.

Humans not only counter natural phenomena with magic but they are also able to divert fore-

seeable, destructive, supernatural influences through the mantic arts. Humans interpret the course and position of heavenly bodies, eclipses of the sun and moon, the blowing of the wind, the flight of birds, the utterances of animals as well as of humans, dreams, monstrous births, or the behavior of sacrificial animals. It is the correct interpretation of these omens that makes clear the cause of divine anger and indicates the appropriate magical remedies. In addition to interpreting signs, divination investigates what humans should do under the given circumstances. In the final analysis, the mantic arts, which are based on the interconnection of all things, are rooted in magic.

Just as magic and divination are tied to one another, there is a close connection between magic and medicine. Illnesses are often conceived as the consequences of the malign influence of sickness demons and as punishments sent by angry deities. One seeks to ward off and combat these evils through magical and religious means. When medicines (including honey, wine or beer, plants, animal substances, and minerals) are no longer effective, magical methods are introduced; however, magic and medicine are applied at the same time. One attempts to intensify the effect of the medicine with the aid of incantations, or to learn by means of omens and oracular inquiry the appropriate measures to employ against the illness. Magic,

divination, and medicine are thus inextricably bound up with one another.

MAGIC AMONG THE HITTITES

As with other peoples of the ancient Near East, magic played a great role among the Hittites. The human being did not simply surrender in humility before supernatural forces; rather, with the help of magic and witchcraft he or she sought to repair the disturbance in the cosmos, that is, to keep impurity at a distance and to avert harm. Two opposing forms of magic and witchcraft arose: "black magic" (or harmful witchcraft) and "white magic" (or defensive witchcraft).

Harmful magic is attested only indirectly, when it is removed by countermagic. Since harmful magic could damage not only an individual but also society and the state, the practice of magical acts was under state control. In the Old Hittite period, King Telipinu (about 1500 BCE) imposed a ban on witchcraft, and illegal magic is also subject to punishment in the Hittite Laws:

If someone within a family knows about magic, you shall remove him from (his) family and bring him to the palace gate. Whoever does not bring him in—it will come about that things will go badly for that person. (Telipinu Proclamation, section 50)

If someone purifies a person (ritually), he must also transport the ritual remains to the place of burning. If he transports them to someone's field or house (plot), this is sorcery and (a case for) the royal law-court. (Hittite Laws, § 44b)

Even before the time of Telipinu we encounter instances of harmful magic at the court of Khattushili I, who intervened against contact that he considered too intimate between the queen and the magical practitioners known as Wise Women. Furthermore, in the Middle Hittite period the royal princess Ziplantawi slandered her brother Tudkhaliya II and his family by means of "evil tongues":

The evil which she had spoken against Tudkhaliya and (his wife) Nikkalmati and their children she had also made in the form of "tongues" against them. Furthermore, she also repeatedly spoke evil (about) them (i.e., the king and queen) before the

sun-god of blood and the storm-god. She bewitched them repeatedly.

Murshili II (second half of the fourteenth century) complained about the curses directed against his family by the dowager queen. In the following passage Khattushili III (first half of the thirteenth century) accuses Arma-Tarkhunta, governor of the Upper Land, of witchcraft: "Furthermore, he treated me badly. In addition, he continually directed sorceresses against me, and they bewitched me. . . . They began to bewitch me. . . . They also filled Shamukha, the city of the god, with witchcraft." (See also "Khattushili III, King of the Hittites" in Part 5, Vol. II.)

The archives of the Hittite capital have provided us with a significant amount of source material among which magical literature is well represented. The most important and most extensive texts are the magical rituals (indicated by the Sumerian term *siskur*) that deal almost exclusively with magical matters. We also find magical passages in mythological texts, prayers, oracles, rituals for the dead, and rites of the state cult (*EZEN*), which were performed at designated times of the year.

Hittite magical literature reflects the meeting of the many peoples and cultures who lived in ancient Asia Minor. Although we cannot accurately assess the amount of borrowing from other cultures, we do know that the Hittites took many of their magical practices from the Hattic people, the Hurrians, the Luwians, the Babylonians, and from other peoples obscure to us.

For the most part, Hattic rituals are concerned with the well-being of the king or are connected to mythology. Examples include the Telipinu myth and the strongly mythologizing construction ritual for the royal palace. Hurrian incantation rituals are likewise centered on the king and the well-being of the land. This may reflect the political situation in the Old and Middle Hittite periods, which were marked by severe internal and external conflicts and battles. The so-called Kizzuwatnean rituals, on the other hand, provide us with a glimpse into living folk beliefs.

A Hittite incantation ritual was usually the private commission of an offerant (*EN BĒL SISKUR*, literally, "lord of the ritual"), for whose magical purification it was especially composed. Such

rituals always follow a similar if somewhat variable schema: At the beginning are found the name of the author, usually with a note as to his or her profession and place of origin, and the designation or description of the offerant. The problem to be countered by the ritual follows, accompanied by a list of the necessary ritual materials (foodstuffs, objects, food offerings, and sacrificial animals). These are transported to a specified locality and are set up at a particular time. Next come the preparatory ritual manipulations and alternating invocations and sacrifices to deities. Afterward, rites of contact and transmission are performed. Once the offering scraps have been removed, there follow the purificatory rites, offerings and thanks to the participating deities, and blessings for the offerant. The disposal of the ritual remains concludes the procedure.

OFFERANT AND MAGICIAN

Frequently the offerant is the king, who in many cases is called by name. In one example, Palliya, king of Kizzuwatna, undertakes the dedication of an image of the storm-god of Kummanni. Sometimes the king and queen together are the clients. The names of the royal couple appear in the expiatory rite for Tudkhaliya II and Nikkalmati. (Although they are not the immediate clients, the purpose of the ritual is their purification.) High palace officials might also commission rituals, as for instance the scribe Pirwa, who found it necessary to counter divine anger. Other clients are princes and ordinary citizens. Here we might mention the birth rituals, the ritual of the Wise Woman Mashtigga of Arzawa against family strife, or that of Pashkhuwatti of Arzawa against male impotence. However, the birth rituals are for the most part anonymous.

Even before the client is mentioned in the introductory lines of the ritual, the name of the officiating priest or priestess appears. He or she speaks in the first or third person. The most important of the incantation priestesses was the Wise Woman (Sumerian ^MŠU.GI; Hittite *haš-šawa-*, literally “Old Woman”). She appears most often in Luwian and Hurrian incantation rituals, but in addition to Luwian and Hurrian

she might also speak Hattic or Palaic. In at least fourteen instances she is known to us by name. She was probably not a priestess in the sense of a temple employee, but rather a magical practitioner. Her duties were not confined to the realm of magic, for already in Old Hittite times she performed the lot oracles. She worked alone or in the company of other incantation specialists, such as the physician (^{LÚ}A.ZU), the seer (^{LÚ}HAL or ^{LÚ}AZU, Akkadian *BĀRŪ*), or the bird observer (^{LÚ}MUŠEN.DÙ). She was attended by the hierodule (^{MÍ}SUHUR.LAL).

The physician was consulted in cases of bodily injury in the Old Hittite period, and he was compensated for his services (Hittite Laws section 10). The close connection of the physician with magic may be seen in the Old Hittite ritual for the royal couple where he helps a priest interpret an omen, or in a ritual against plague in the land where the practitioner Zarpiya bears the title of physician, although he engages solely in magic.

A physician appears in the *Prayer of Kantuzzili* in connection with hepatoscopy (observation of the liver of a sacrificial animal). The text dealing with the aphasia (loss of speech) of Murshili II describes a physician who performs both an extispicy (observation of several of the internal organs of a sacrificial victim) and an oracular consultation with birds. During the reign of Khat-tushili III, this function was assumed by the seer.

It is unclear whether the physician belonged to an organized profession. We know in any case of an “overseer of physicians,” a “head physician,” and a “junior physician.” The “female physician” is also attested, but her function most probably corresponded to that of the Wise Woman.

Not only did the Hittites have their own native physicians and incantation priests but they also imported them from Egypt and Babylonia. A letter from Khattushili III to the Kassite ruler Kadashman-Enlil II attests the presence of Babylonian physicians and an incantation priest at the Hittite court in the time of Muwattalli II.

The bird observer or bird enchanter is often mentioned by name. He carried out incubation rituals of the Luwian and Hurrian type either alone or together with the Wise Woman, the seer, or the physician. These rituals are most

The Aphasia of Murshili II

This curious text recounts an incident in the life of King Murshili II, who ruled in the second half of the fourteenth century BCE. Confronted on his accession to the throne by widespread revolt and a plague ravaging his land, this ruler was subject to much emotional stress, which apparently manifested itself in the hysterical loss of his voice. In the Hittite view, however, as confirmed by oracular inquiry, Murshili's crisis had been brought on by the intervention of a storm-god resident in Kummanni, an important center of Hurrian and Luwian culture in the southern province of Kizzuwatna. Following a text written on an already-ancient wooden tablet, relief was to be obtained by offering to the deity in his own temple various personal possessions of the king, as well as a substitute ox. Murshili did not make the journey to Kummanni along with the gifts, but while still at home performed sacrifices of birds and sheep to several Hurrian deities, including the storm-god. Portions of at least four copies of this composition have been recovered at the Hittite capital of Khattusha (Boğazköy), but the original probably accompanied the bovine sent to Kummanni, in order to explain to the religious authorities there how to proceed. The use of many as-yet untranslatable Hurrian technical terms and abrupt switches from the first to the third person contribute to the difficulties presented by this document to the modern reader.

Thus says His Majesty Murshili, Great King: I was driving to the ruined town (belonging to) Kunnu when a storm came up. On top of this, the storm-god repeatedly thundered frightfully so that I became afraid. Speech became small in my mouth and came out of me only sparingly. I had put this matter completely out of my mind when years later it began to come to me repeatedly in a dream. In the dream the hand of a god touched me so that my mouth went to the side. So I instituted an oracular inquiry, and the storm-god of the town of Manuzziya was indicated. I consulted the storm-god of Manuzziya by oracle, and it was indicated that I should give him a substitute ox, roast it in the fire, and also roast some birds. I consulted the oracle further concerning the substitute ox, and it was indicated that I should give it in its (proper) place in the Land of the town of Kummanni, in the temple.

The substitute ox was adorned, and His Majesty placed his hand upon it. Then it was dispatched to the Land of Kummanni. His Majesty did obeisance. On the same day that the substitute ox was adorned, His Majesty bathed himself. The night before he had abstained from (intercourse with) a woman. When he bathed in the morning, he placed his hand likewise on the substitute ox. But when the substitute ox was sent off, His Majesty bathed himself pure for seven days after the substitute ox (had left)—while the substitute ox was brought to Kummanni,

and while it was presented. Because he had delayed, His Majesty did not wait (any longer). He carried off (i.e., wasted?) seven whole days. From the eighth day—when the seventh day had passed—then His Majesty [. . . On that] day, when [. . .]

He roasted birds in the following manner: one bird for *ari itarki*, one bird for *ari mudri*, one bird for *ini iriri*, one bird for *ilmi parmi*, one bird for *iriltehi*, one bird for *ulahulzi*, one bird for *duwantehi*, one lamb for *tahaši duruši*, one bird for *kibišši punuḫunši*, one bird for *gamerši*, one bird for *tati duwarni*, one bird for *šerdihi šerabihi*, one bird for *anišhi bindihi*, one lamb for *zuzumaki*. It was indicated by oracle that he should roast with fire in that manner. And when [His Majesty bathed], they likewise dispatched on that same [day] whatever [. . .] was inscribed along with the substitute ox. They [gave] (it) to the god. And [on that same day] they also gave the [. . .] which was on the *anzai* table. . . .

One sheep [was sacrificed] for well-being to the storm-god for *ambašši*; [one ox] and one sheep to the male deities for *ambašši*; [one ox and one sheep] to Lelluri and Abari; one ox and one sheep to [. . . ; one ox] and one sheep to the *anzai* table and to [. . .]; one ox and one sheep to Lelluri; [one ox and one sheep to Abari.]

On the day that I placed my hand on the substitute ox—when it was dispatched—on that same day, the sumptuous garments which I [had] donned that day were dispatched, (namely) those packed-up sumptuous garments, together with belt, sword, and shoes, and along with . . . They were taken away. And the hitched-up chariot, bow, quiver, and horses were dispatched and were driven away. And whatever utensils were enumerated: the table from which I regularly ate, the cup from which I regularly drank, the bed upon which I regularly slept, and the basin in which I regularly washed—none was taken away (for the god). This was likewise indicated by the god through an oracle. The sumptuous garments, the chariot, and the horses were implicated in that affair.

The sumptuous garments which I had donned the day on which the storm-god repeatedly thundered frightfully and the storm came up, and the chariot upon which I stood that day—they took these packed-up sumptuous garments and that hitched-up chariot (for the god).

When they bring the substitute ox, as the ritual of the substitute ox is inscribed on the ancient wooden tablet, as its ceremony is performed, as the ritual for well-being and *ambašši* is performed for the deity according to the ancient wooden tablet—they will proceed accordingly. But if the substitute ox dies on the way—for the journey is long—they will give them (the offerings) as (is appropriate) there, and another substitute ox adorned with those ornaments will be driven off. Those ornaments together with that substitute ox will be burned up.

[One] tablet, complete, of Murshili—when he heard the thunder in the ruined town of Kunnu.

Translated from the Hittite by Gary Beckman

often directed against ominous signs. “Evil” birds, for example, were the focus of attention in the *Ritual of Khuwarlu of Arzawa*, the *Ritual of Papanikri*, and the *Ritual of the Protective Genius of the Hunting Bag*. The duties of the bird observer extended beyond the realm of magic. In particular, he was entrusted with the observation of signs given by birds, alongside the actual augur (LUGI.MUŠEN). We do not know for certain which of these experts had the leading role. The bird observer was concerned also with the capture and breeding of birds that were used for rituals as well as for bird divination.

As members of the military staff, bird observers, augurs, and seers often accompanied the army into the field in order to interpret unusual signs and to perform oracular inquiries. They were expected to provide the Great King with an exact report on their activities. The augur faced death for behavior contrary to his instructions.

Incantation priests probably most often received their payment in the form of leftover ritual materials. For example, in the *Ritual for the Goddess Wishuriyanza*, the magician is allowed to take with her the pottery and utensils that she has used. This is probably the reason that the rituals often call for prodigious amounts of equipment and foodstuffs. The common people probably could not afford such expensive materials. They could avail themselves of such rituals only if models were employed in place of living animals: “The offerant stands up, and a donkey is driven in. If it is a poor man, then one fashions a donkey of clay.”

OCCASIONS FOR MAGICAL RITUALS

The reasons for performing a ritual were varied and encompassed all aspects of the life of an individual, a group of persons, or the entire state. These rituals are analogous to medical prescriptions and were employed in case of certain occurrences or disturbances. These include building rites for house or temple, coronation rituals, rituals to counter human suffering (the threatened death of the king, illness and plague, a death in the royal family, impotence), birth rituals, cere-

monies against crime and misbehavior (perjury, physical injury, witchcraft, curses), rituals concerned with human relations (family disturbances), rites for military purposes (protection of the troops, expiation after a defeat), cultic events (making good an offense against the gods, erection of divine images, summoning of absent deities), and rituals in connection with spontaneous omens.

The occasion of a ritual is always given at the beginning of a text. For example, “Thus says Mashtigga, the woman from Kizzuwatna: If a father and son, husband and wife, or brother and sister quarrel—if I get them together I treat them as follows . . .”

MAGICAL PRACTICE

The precondition for magical activity is the belief that the cosmos and its contents stand in a relationship of sympathy or antipathy toward one another. The magician or incantation priest understands these connections and is thus in a position to avert negative effects or to bring about positive ones.

Magic follows the principles of analogy and contiguity, that is, direct contact. In order to kill an enemy, one prepares a doll and pierces it: what happens to the model also befalls the person it represents. Or one might acquire something belonging to one’s enemy, for example a bit of hair, in order to damage or destroy it and thus harm that person. Magical practices may be grouped into several basic types, but we must always bear in mind that our modern classification suggests a neatness of systematization not present in the ancient texts themselves. In addition, the magical practitioner could always combine several types if the case called for it.

Analogic Magic

Analogic magic was one of the most popular types of magical practice among the Hittites. The contents of analogic magical texts are diverse. These texts tell us more about Hittite ideas concerning interconnections in the natural world, plants, minerals, animals, human beings, and heavenly bodies than any other genre of texts.

In these rituals, analogic magic is performed on previously prepared materials and the effect of the magical procedure is then transferred to the offerant. For example, fat, tallow, or wax might be melted (as in the *Ritual of Tunnawiya*) or objects might be crushed underfoot or incinerated. The objects to be melted, crushed, or burned represented the evil to be eliminated, so that these actions were seen as diverting the evil from the offerant. Analogic magic always includes an oral component, an incantation, that establishes the magical connection between the evil and its model.

We may divide analogic magic into categories according to whether animals, plants, foodstuffs, heavenly bodies or phenomena or other things are chosen as the vehicles of the analogy employed. For example,

Then she (the Wise Woman) takes a soap plant . . . and crushes it underfoot, thereby flattening it. A single lump is fashioned from this. Then she presses this on all the limbs of the king and queen. . . . and she speaks as follows: As this soap plant cleanses soiled garments and these (thereby) become white, (thus) may it likewise purify the limbs of the king, the queen, the princes, and also the palace.

Or:

As the oil-tree contains oil in its midst, as the grape-vine contains wine in its midst, so may you, Teli-pinu, contain good in your mind, in your midst.

Rites of Contact

In rites of contact and transference, direct physical contact is established between the offerant or the object to be purified and the *materia magica* (material for magic). This might be accomplished through simple touching, lifting up, or repeated waving of an object, or through magic involving wool and cords (that is, through the manipulation of wool of various colors, of cords, or of ribbons). In one ritual to dispel strife from within a family, the Wise Woman “takes (two) figures of dough and two figures of wood—they are clothed—and two hands. She places two (model) tongues on their heads. . . . Then the Wise Woman takes a fish and waves it between the two offerants.”

Rites of contact and of transference normally

meld. For instance, one might step, run, or crawl between objects or living creatures in order that pernicious material be scraped off and transferred to the objects between which one has passed. Thornbushes, nets, or kettles might be employed in this manner:

He passes through the gate of hawthorn. She speaks thus: “The sheep goes out through you, and you pull out of him a tuft of hair. The ox goes out through you to his pasture and you pull out of him some of the hair of his forehead. Likewise pull out of this offerant the evil impurity, the magic.”

If soldiers at the front suffered a defeat and lost their morale for battle, the soldiers had to march through a gate erected for the ritual, by the sides of which hung the severed halves of a kid, puppy, piglet, and human being. Another type of transference involved wiping or rubbing off and massaging oneself with ingredients in which magical power was inherent (bread, meal, honey, or mud). This served to remove evil magic.

Rites of Identification and Substitution

Forms of identification and substitution functioned to establish contact between the magical material and the magical practitioner, or with the person or thing to be purified. After the establishment of contact or identification, the substitute material could be manipulated at will. It was possible to unload the evil onto it, to send it away, to destroy it, or in the case of a living substitute, to kill it. Human beings (usually prisoners of war) and animals were suitable substitutes, but representations fashioned of clay, wood, or wax could serve also.

If the king needed to be protected from evil, as was often announced by an omen, the substituting ritual, which was probably imported from Babylonia, was carried out. It was necessary for the substitute person to attract the feared evil to himself or herself, as illustrated by this text:

When (the king) marches back from the territory of the hostile land, one takes a prisoner of war and a woman from that land. . . . This prisoner of war and this woman are brought before him (the king). He takes off his own clothing, and the prisoner is dressed in it. The woman, however, wears the garments of a woman.

Attraction Magic, Apotropaic Magic, and Deflection Magic

Through attraction (“sympathetic”) magic, apotropaic magic, and deflection magic, the Hittites sought to attract good supernatural forces and to frighten off or repel evil ones. Attraction magic was used to summon deities who had disappeared. Divine food and drink such as honey, fine oil, and wine were placed on a table, and the paths that the deities were expected to follow on their return were decorated with leafy branches and with strips of colored textiles stretched out in all directions. The gods were then summoned: “They set up a table in front. Underneath and in front they fashion seven ‘springs’ and fill them with water. Then they pour (other intoxicating beverages), beer, sweet wine, . . . honey, fine oil, butter, and sweet milk into them.”

DIVINATION

Magic and witchcraft help humans to directly influence evil power in order to divert it or turn it aside. The mantic arts, on the other hand, investigate the intentions of supernatural powers and thereby obtain information about the future. The intentions of the gods are announced through signs that they themselves initiate. If the anger of the gods has already manifested itself through misfortune, one must determine the cause of this anger. A divine message might reach humans by various routes. If the deity reveals himself or herself spontaneously, we speak of *auguria oblativa*, an offered portent. If the sign is expressly requested and artificially produced, it is an *auguria impetrativa*, a “caused (or demanded) portent.”

To the first type belong celestial phenomena of all sorts, including eclipses of the sun or moon, lightning, or thunder; the behavior of animals; and unusual events in the world of humans, including monstrous births, dream visions, or ecstasies. In the category *auguria impetrativa* should be placed the examination of the entrails of sacrificial animals and various other types of oracles. Dreams may be allotted to either category, depending on whether they occur naturally or whether they are intentionally solicited, as in incubation in a temple.

Dreams

For the Hittites, dreams were an important medium by which to learn the will of the gods. A dream is set beside the pronouncements of an ecstatic in prayers of Kantuzzili and Murshili II, and is included with omens and oracles in another significant passage.

In a dream, a deity might speak to a human, pointing out his or her offenses, reminding them of vows, or warning of dangers. A particular form of dream communication is incubation, a practice by which a person seeking divine help sleeps at a holy location in hopes of receiving a dream oracle. The interpretation of these dreams is the province of seers and priests.

The earliest attestation among the Hittites for the infrequent practice of incubation, *šuppiyaš* (^{GIS}NA) *šešk-* (literally, “to sleep upon a pure [bed]”), is found in the *Legend of Naram-Sin*, which reached them through the traditions of the scribal schools. Here an oracular inquiry precedes the incubation, and although it produces an unfavorable result, the king turns to the goddess Ishtar for help. She advises him to request a dream oracle from his personal deities. Later, in the *Second Plague Prayer of Murshili II*, we learn of a dream oracle that is referred to the priests. After unsuccessful dream interpretation and other oracular inquiry, the king asks that he be informed by means of a dream of the cause of a plague tormenting his land:

Furthermore, if people are dying for some other reason, let me either see it in a dream, or let it be determined by an oracle. Or let a prophet (*šiuṇiyant-*; literally, “one possessed of/by a deity”) speak it. Or in respect to what I command of all of the priests—let them sleep on a pure (bed). . . . May the gods, my lords, manifest their providence, and may someone there see it in a dream. And may the reason that people are dying be discovered.

The prayers of Kantuzzili and Murshili II mention dreams that seek to probe the causes of spiritual distress. These causes might lie in the sufferer’s own guilt or in offenses of his or her forebears.

In Khatti, major importance was first attributed to dreams in the reign of Khattushili III and his spouse Pudukhepa. The collection of dreams and the close interrelationship of dreams, vows, and oracles is characteristic of the

Excerpt from a Ritual Against Sexual Impotence

Paskuwatti is a woman from Arzawa. The ritual dates from the Middle Hittite period, but is preserved in just one thirteenth-century tablet. In the Hittite archives, there is another such ritual, ascribed to Anniwiyani. This ritual includes arousal by the presence of a virgin, acts of sympathetic magic, prayers, and incubation, in which an impotent man sleeps at the offering table of a goddess, hoping that she will sleep with him.

Thus speaks Paskuwatti, the Arzawa woman who lives in Parassa. If some man has no reproductive power or is not a man vis-à-vis a woman.

I make offerings to Uliliyassi on his behalf and entreat her (Uliliyassi) for three days. On the first day I do as follows: One soldier bread is piled up, and the following items are laid out with it, three sweet thick breads (made) of moist flour weighing one *tarnaš*, figs, raisins, *kallaktar*, *parḫuenaš*, groats of the deity, a little of everything, a tuft of wool from an *iyant*-sheep, a pitcher of wine, and the *kusītu*-garments or the cloak of the man who is the patient, they (all these) are placed on the soldier bread.

A virgin lifts them (the materials) up, and the patient, having bathed, walks behind (them). . . . We take them (the materials) to an unsettled/uncultivated place in the steppe. We take up a position. The same (girl) keeps the soldier bread lifted. I build gates of reeds.

I tie them together with red and white wool. I place a spindle and a distaff in the patient's hand, and he comes under the gates. When he steps forward through the gates, I take the spindle and distaff away from him. I give him a bow (and) arrow(s), and say (to him) all the while: "I have just taken femininity away from you and given you masculinity in return. You have cast off the (sexual) behavior expected (of women); you have taken to yourself the behavior expected of man! . . ."

. . . Concurrently I speak as follows: ". . . He has just presented (?) himself to you. . . . He went down to her bedchamber, but this mortal (was just) one of feces and urine. He did not find you.

"But now he has just come to you on his knees for help and is seeking you, O goddess, for the sake of your divinity. Whether you are in the mountain, whether you are in the meadow, whether you are in the valley, (or) wherever (else) you are, in favor come to this man! Let winds and rain not beat against your eyes!

"He will proceed to make you his (personal) goddess. He will offer you a place. He will give you a house. He will give you male and female slave(s). He will give you cattle and sheep. He will make you a recipient of vows.

"I am just now entreating and drawing you. So come! Bring with you the moon, the star(s), and the nocturnal sun. Let female and male slaves run before you! Let the male deities (and female deities) run before you! Come to this man! You are his 'wife of children' for him! So look after him! Turn to him (in favor) and speak to him!

Turn your maidservant over to him, and he will become a yoke. Let him take his wife and produce for himself sons and daughters! They will be your male and female servants. They will keep giving you offerings, thick breads, groats, (and) libations.

"(Till now) this man has not known you. But just now he has sought you. Since it is you (instead of another deity) that this one has sought, you—O goddess—must step toward him in favor. O goddess, show your divinity and make good the matter about which we are entreating you on earth! Let him experience (literally, "look up at") your divinity, O goddess! It will happen that he will make you (his personal goddess)." I put (the broken thick breads) back on the soldier bread, and we go back into the house. In the house in which I make the offerings a new table is set up. I place (the broken thick breads) on top of the soldier bread upon the table. Down in front (of it) I place a pitcher.

I take a few of the broken thick breads which are lying on the soldier bread and give to the man who is the patient. He puts it in his mouth and drinks the deity Uliliyassi three times. When evening falls, the patient lies down in front of that same table. They place a bed down in front of that same table for him.

The *kusītu*-garments or the cloak which are lying on the soldier bread he will spread out (each) night. I do it for three days. On each day I entreat three times, (once) at dawn, once at midday, (and) once at dusk. And while doing so, I speak those very same words. . . .

"But you, (O goddess,) turn your maidservant over to him, that he may become a yoke for her! Let him take his wife, let him produce for himself sons and daughters! You, O goddess, show your divinity! Let him experience your effectiveness! He will make you his personal goddess. He will make you the recipient of vows." Once more they spread a bed for him down in front of the table. They also spread out below for him the *kusītu*-garments or cloak which has been lying upon the soldier bread. The patient lies down, (to see) if he will see in a dream the goddess (Uliliyassi) in her body, (if) she will go to him and sleep with him. Throughout the three days in which I entreat the goddess he reports whatever dreams he sees, whether the goddess shows her eyes to him (or) whether the goddess sleeps with him.

He will come and worship the goddess. In addition if she prefers pithos-vessel, he will make her stand as a pithos-vessel. But if not, he will make her stand as a *ḫuwaši* stone. Or he will 'make' (worship?) her (as) a statue. But the new table which was used in the entreaty becomes the exclusive property of the goddess.

But if he does not see (her) in her body, (if) the goddess does not sleep with him in a dream. I will keep on performing this ritual.

Adapted from a translation by Harry A. Hoffner, Jr., "Paskuwatti's Ritual Against Sexual Impotence (CTH 406)," Aula Orientalis 5 (1987): 271–287

thirteenth century. These dreams provide information about the future. Their subject matter is often a concern for the health and lifespan of the king, and in this they recall the contents of the vows. These latter are solemn promises made by a human in return for the help of a deity. Such vows were familiar in Pudukhepa's native Kizzuwatna. Promises of gifts were thought to excuse the petitioner for a prior infringement of religious regulations, perhaps for neglected festivals or damaged cultic equipment. Often, such vows were made in previous dreams and thereafter forgotten. Unfulfilled vows are the subject of dream collections. Note the following excerpt from a vow:

Thus says Pudukhepa, Great Queen of Khatti, daughter of the city of Kummanni: "I have taken this vow to the goddess Lelwani, My Lady, on behalf of the life of the person of His Majesty: If you, O goddess, My Lady, sustain His Majesty in life and health for long years, so that he walks before you, O goddess, for long years, I will give you yearly, O goddess, as many (model) years of silver and gold, months of silver and gold, and days of silver and gold . . . , as well as a gold image of His Majesty."

We encounter dreams in prayers, historical texts, and oracles as well as in magical rituals, such as the *Ritual of Tunnawiya* and the *Ritual of (M)alli from Arzawa*. Here, evil dreams are among the evils that one attempts to remove by means of analogic magic or other magical procedures. In birth rituals from Kizzuwatna, the pregnant woman must first become pure by means of a dream before a priest may lead her to the birth stool. In the *Ritual of Pashkuwatti* against impotence, the appearance of a goddess in a dream is thought to awaken the sensual desire of the sufferer and thus to cure him of his impotence. In a ritual for the sun-goddess of the earth, the deity is asked for advice, and by means of a dream she announces that a substitution ritual should be performed.

Omens and Oracles

The interpretation of omens and oracles assumes that the gods communicate important messages to humans using a system of signs. There were probably few important undertakings in the private and public life of the Hittites whose

chances for success were not researched in advance through oracles. Oracular inquiries were carried out to determine the course of a military campaign, the routes of march, and the winter quarters of the army; the possible outbreak of plague in the military camp; evil phenomena to be expected upon an accession to the throne; and very often concerning illnesses of the king and the royal couple.

Oracles were important in the private life of a monarch as well. In one example, a ruler suffering from an ocular disease asked which medicinal plant and which physician would be suitable. Later, an oracular inquiry was instituted to discover whether a physician who would be brought to Khattusha (modern Boğazköy) would meet with a fatal accident or illness.

If, despite all precautions, a calamity occurred, it was attributed to divine anger. The next step was to determine which gods were angry and what was the cause of their anger. The investigation and performance of these matters required the mastery of a complex system of signs, a capacity generally possessed only by learned scholars and experienced specialists. As we have seen earlier, their activities also extended to the realm of magic.

Specialized scholars and the animals necessary for extispicy were undoubtedly expensive; for the most part only the rich—the king and his family, high officials, and the state itself—could afford an oracular consultation of this sort. For the ordinary citizen, there remained less costly methods, such as beaker prophesy (lecanomancy, or interpretation based on drops of oil in a cup filled with water) or incense oracles (the observation of the vapors of burning incense).

While omens and dreams appear on their own, the precondition for an oracle is a direct question to the gods about a particular matter. The Hittites used various means of questioning the gods—lot oracle, extispicy, or augury. Answers received were interpreted as a simple favorable "yes" or unfavorable "no."

The science of omens became known to the Hittites from Babylonian sources, but it reached Khattusha in the fourteenth and thirteenth centuries through the mediation of the Hurrians, who inhabited northwestern Mesopotamia. Omenscience in its Babylonian form remained basically foreign to the Hittite scribes, but they adopted

it out of a scholarly interest. Especially at the time of Khattushili III (thirteenth century), they appear to have practiced and believed in it, at least in their own interpretation. Perhaps the Hittites required liver models and manuals of extispicy for a type of oracle that they developed involving the examination of entrails.

Hittite belief in omens may be seen in all types of texts. Many royal substitution rituals were occasioned by omens of the moon, which portended the death of the reigning king. A speech of the ruler in one of these rituals reads: "O sun-god, My Lord, listen to me! In regard to the fact that the moon-god has given a portent—if he has (thereby) announced evil for me—see, I have provided substitutes in my place for the sun-god of Heaven and the deities of the earth." Solar signs were equally significant. Compare an excerpt from a historical text relating the activities of Shuppiluliuma I: "While I was on the march against the land of Azzi, the sun produced a portent."

In structure and means of expression the Hittite omen texts display considerable agreement with their Babylonian forerunners. In addition to texts concerned with extispicy, birth omens (that is, prognostication based on the form of newborns or of premature births), and oil omens, the Hittites also had liver models, which, in contrast to those of the Old Babylonian period found at Mari (Tell Hariri), represent in clay the liver of a slaughtered animal in natural form and size.

Prominent among the omens are those of the astronomical type that deal with such celestial phenomena as lunar eclipses, the color of the moon, and the form and direction of its "horns." In one instance, a text explains the significance of the occurrence of a lunar eclipse on the particular days of various months.

The different types of oracle were not tied to particular occasions or causes, but each could be employed in any situation. Sometimes several types were used in a single case for the sake of double-checking. Oracles of all periods present linguistic difficulties because of their "telegraphic" style, abbreviations, and the specialized vocabulary employed to describe the performance of the oracle. It is likely that the results of oracles were immediately written down at the place where they were carried out.

One augury report even seems to present a sketch of the area in which the flight of the birds was observed.

Almost all types of Hittite oracles feature the following three or four components: (1) putting the question to the deity or deities, (2) performing the oracular procedure, (3) stating the result as interpreted by the expert(s), and, optionally, (4) double-checking by means of an oracle of the same or a different sort.

Lot Oracles The lot (KIN) oracle carried out by the Wise Woman was based on the interpretation of symbols that are hardly intelligible to us today. In these texts various things represented by lots (for example, "well-being," "life," "battle," "the weapon") are "taken" and "given" to someone ("the king," "the enemy," "the gods"). Undoubtedly these symbolic representations were arranged on a special "game board." The particular rules by which favorable (SIG₅) or unfavorable (NU.SIG₅) results were reached are still not recognized. The following is an excerpt from a lot oracle which is concerned with plans for a military campaign:

(Question:) If (His Majesty) will return from Nerik and is in Ashtigurka, he will smite the unscathed troops of the Khakharwa Mountains. However many days are determined by oracle (for His Majesty for this purpose, for only so long) will he go up (into the mountains). . . . Let it (the lot oracle) be favorable! (Observations:) 1. "The gods" stood up. They took "well-being," "the campaign," and "the king," and (gave them) to "the throne (-goddess)." 2. "The men of Khatti" took for themselves "righteousness," "the campaign," and "the war-god." These were given to "the storm-god." 3. "The enemy" took for himself "righteousness," "release," and "well-being of the house," and (placed them) in the . . . (Result:) Favorable.

Extispicy Extispicy was the examination of a sheep, sometimes cut while yet alive, and the interpretation of special features of the liver in particular, but also of the gall bladder, the heart, and the coils of the intestines. The process is described in the Hittite expression, "We inquired of the entrails (KUŠ) of the sheep." As with other forms of oracle, the procedure might be repeated as a check upon itself. Thus: "In

regard to the seer, the oracular inquiry is as follows: Let the first sheep be favorable, the latter unfavorable!”

In researching the future, extispicy was very often employed in association or alternation with the rock partridge(?) (MUŠEN HURRI) oracle, also derived from Hurrian sources. Since both types of oracle were performed by the seer, and since there are terminological similarities between them, we may assume that the rock partridge(?) oracle was also based on the examination of the internal organs of the animal in question.

Augury Augury, the interpretation of the flight of particular birds, was among the types of oracle most often practiced by the Hittites. Its origins and antiquity are unknown, but it later played an important role in Italy among the Etruscans and Romans. The Hittite expert observed the behavior of birds chosen for this purpose, within a designated area, most often situated near a river. The coming and going, the landing and flying away, as well as the swimming and “flying back toward the observer from the favorable field” were duly noted. (It must be noted that the Hittites did not employ special words for “fly” or “swim,” but rather simply expressed these movements with the words for “come,” “go,” or “arrive.”) In addition to the particulars of flight, behavioral details such as “turning the beak in the direction of the road,” “turning the beak halfway,” “calling/chirping,” “fighting,” and “letting the feet hang down” were also observed.

Movements and other aspects of behavior were summarized as “giving a sign” (*šakiyahh*), or as “making manifest” (*išiyahh*). While lot oracles and extispicy sought “favorable” or “unfavorable” outcomes, in augury the birds were asked to “throw away” or “establish” a result. At least twenty-six different types of birds were observed by the Hittites, but none except the eagle and the rock partridge(?) has as yet been identified. There are many other uncertainties in the interpretation of Hittite augury, particularly in regard to the description of the observational field.

The following example, in which the proper location for the royal couple to spend the winter and perform various festivals is investigated,

gives an idea of how oracle birds were observed at Khattusha:

(Question:) The birds of the season(?) will congregate for him there, but when the time of the crocus(?) arrives, they will set out the crocus(?) for the gods, (saying:) If you, O gods, have approved the city of Khattusha, city of the storm-god of Aleppo, for the winter quarters of His Majesty and the Queen, together with everything else, (and if) we have nothing to fear for the person of His Majesty and the Queen in regard to the plague or a serious illness, (and if) evil will not drive them out, (and if) you, O gods, have (indeed) approved Khattusha, city of the storm-god of Aleppo, for the winter quarters of His Majesty and the Queen, may the birds of the incantation of three days establish it by means of an oracle! (Observation:) The eagle is sitting (in?) TAR.LIŠ. His beak is turned forward. The *harrani*-bird is sitting (in?) GUN.LIŠ. His beak, however, is turned halfway to the side. . . . (and so on in regard to other birds). (Result:) Thus declare (the augurs) Pikha-Datta and Arma-nani: It (the oracle) is favorable.

The snake oracle was well known in the time of Khattushili III. The site of the observation—here a specially laid-out basin—was divided into various fields. This division was both vertical and horizontal, and the sections were given designations such as “life,” “sin,” “temple,” “house,” and “prison.” A water snake was released into the basin, and the Wise Woman determined the outcome of the oracle from the path along which the snake proceeded.

(Question:) Why are you angry, O great god? Because I have made several vows to you (but have not fulfilled them)? Let this be separated (from the previous oracular inquiries)! If, however, nothing has been neglected in regard to you, O god, let the oracle of the water basin be favorable! (Observation:) The “snake of the hearth” swam to “the sin.” It swam further to “the stele of the bloody deed and the oath.” The other “snake of the hearth” emerged from “the palace.” . . . It swam down to “the ghosts.” . . . (Result:) Unfavorable.

CONCLUSION

In this brief discussion of the diverse aspects of Hittite magic, witchcraft, and divination, we have defined the magicians and their clients, the

occasions for magic rituals and magical practice, and we have described divination, dream practice, omens, and oracles. We find that magic, witchcraft, and divination were deep-rooted in the imagination of the Hittites and strongly influenced and shaped the private and public lives of ordinary people and the king and royal family. Magic, witchcraft, and mantics touched on religion, medicine, and the observation of natural phenomena and contributed to the evolution of diverse “sciences.”

The fact that several manuscripts exist for individual magic rituals proves that these texts had been copied over and over again and were used and reused by different practitioners who did not change the names of the individual magicians or clients. In this way, these copies represented a kind of “patent.”

We cannot easily answer the question of where the ideas of Hittite magic originated. Many aspects are not genuinely Hittite but have their roots in Mesopotamia or in regions bordering on Asia Minor, such as northern Syria. The ritual of the substitute king, the appearance of the exorcist (*āšipu*), and some of the oracles have Mesopotamian models, with the Hurrians playing an important role as cultural mediators. On the other hand, incantation rituals containing a high percentage of simple popular beliefs are from Asia Minor proper: from the Hattians (aborigines of ancient Anatolia), the Luwians, Palaians, and the Hurrians. All these questions could be answered in a more definite way if the stream of text tradition and our information were more dense and less dependent on the chance of archaeological discovery.

Translated from the German by Gary Beckman

BIBLIOGRAPHY

Hittite Magic

ALBRECHT GOETZE, “Die religiösen Anschauungen; Gott und Mensch,” in *Kleinasiens* (2nd ed. 1957); OLIVER GURNEY, *Some Aspects of Hittite Religion* (1977); VOLKERT HAAS, “Magie und Zauberei. B. Bei den Hethitern,” in *Reallexikon der Assyriologie*, vol. 7, and *Magie und Mythen im Reich der Hethiter* (1977); A. S. KAPELRUD, “The Interrelationship Between Religion and Magic in Hittite Religion,” *Numen* 6 (1959); AH-

MET ÜNAL, “The Role of Magic in the Ancient Anatolian Religions According to the Cuneiform Texts from Boghazköy-Hattuša,” in *Essays on Anatolian Studies in the Second Millennium B.C.*, edited by PRINCE TAKAHITO MIKASA (1988); and MAURICE VIEYRA, “Le Sorcier hittite,” in *Le Monde du sorcier*, edited by SERGE SAUNERON ET AL. (1966).

Representative Magical Texts in Translation

The texts quoted in this essay were translated from the Hittite by Gabriella Frantz-Szabó and Gary Beckman. See also GARY BECKMAN, *Hittite Birth Rituals* (1983), and his “The Hittite ‘Ritual of the Ox’ (CTH 760.I.2–3),” *Orientalia* 59 (1990); ALBRECHT GOETZE, *The Hittite Ritual of Tunnawi* (1938), and “Rituals, Incantations, and Descriptions of Festivals,” in *Ancient Near Eastern Texts Relating to the Old Testament*, edited by JAMES B. PRITCHARD (2nd ed. 1955); VOLKERT HAAS and GERNOT WILHELM, *Hurritische und luwische Riten aus Kizzuwatna* (1974); HARRY A. HOFFNER, JR., “Paskuwatti’s Ritual Against Sexual Impotence (CTH 406),” *Aula Orientalis* 5 (1987); HANS MARTIN KÜMMEL, *Ersatzrituale für den hethitischen König* (1967); HEINRICH OTTEN, “Eine Beschwörung der Unterirdischen aus Boğazköy,” *Zeitschrift für Assyriologie* 54 (1961); HEINRICH OTTEN and VLADIMIR SOUČEK, *Ein althethitisches Ritual für das Königspaar* (1969); and GABRIELLA SZABÓ, *Ein hethitisches Entsühnungsritual für das Königspaar Tuthaliya und Nikalmati* (1971).

Hittite Divination

ALFONSO ARCHI, “L’ornitomanzia ittita,” *Studi micenei ed egeo-anatolici* 16 (1976), and his “Il sistema kin della divinazione ittita,” *Oriens Antiquus* 13 (1974); OLIVER GURNEY, “The Babylonians and Hittites,” in *Divination and Oracles*, edited by M. LOEWE and C. BLACKER (1981); ANNELIES KAMMENHUBER, *Orakelpraxis, Träume und Vorzeichenschau bei den Hethitern* (1976); EMMANUEL LAROCHE, “Eléments d’haruspicine hittite,” *Revue hittite et asianique* 12, no. 54 (1952), and his “Lécanomancie hittite,” *Revue d’Assyriologie* 52 (1958); and A. LEO OPPENHEIM, *The Interpretation of Dreams in the Ancient Near East* (1956).

Representative Omen and Oracle Texts in Translation

HANS G. GÜTERBOCK, “Bilingual Moon Omens from Boghazköy,” in *A Scientific Humanist: Studies in Memory of Abraham Sachs*, edited by ERLE LEICHTY, MARIA DEJ. ELLIS, and PAMELA GERARDI (1988); HEINRICH OTTEN and VLADIMIR SOUČEK, *Das Gelübde der Königin Puduhepa an die Göttin Lelwani* (1965); KASPAR K. RIEMSCHEIDER, *Babylonische Geburtso-*

Hittite Witchcraft, Magic, and Divination

mina in hethitischer Übersetzung (1970); AHMET ÜNAL, *Ein Orakeltext über die Intrigen am hethitischen Hof* (1978); AHMET ÜNAL and ANNELIES KAMMENHUBER, "Das althethitische Losorakel KBo XVIII 151," *Zeitschrift für*

vergleichende Sprachforschung 88 (1974); and RUDOLF WERNER, "Ein Traum einer hethitischen Königin," in *Festschrift Heinrich Otten*, edited by ERICH NEU and CHRISTEL RÜSTER (1973).

SEE ALSO *Private Life Among the Hittites* (Part 4, Vol. I); *Witchcraft, Magic, and Divination in Ancient Egypt* (Part 8, Vol. III); *Witchcraft, Magic, and Divination in Ancient Mesopotamia* (Part 8, Vol. III); and *Witchcraft, Magic, and Divination in Canaan and Ancient Israel* (Part 8, Vol. III).

Death and the Afterlife in Hittite Thought

VOLKERT HAAS

NETHERWORLD AND AFTERLIFE

In Hittite tradition earth and netherworld were viewed as a cosmic unity that together were opposed to heaven. The Hittite term for the netherworld is the “Dark/Gloomy Earth” because, as in Mesopotamia, the interior of the earth was conceived as a space without illumination. The phrase “Dark Earth” could also indicate the land inhabited by humans. A specific designation is provided by a passage in which the earth and the “Lower Land” in the sense of the netherworld are distinguished. The cosmic antithesis of heaven and earth is also expressed in an entry in a Hurrian-Sumerian vocabulary found at Ugarit:

turi = KI = “below”
ašhu = AN = “above”

In Mesopotamian thought, the earth was an orb set upon the primeval ocean. In the Kumarbi Cycle, a similar cosmology is offered by the Atlas figure Upelluri, who stands in the sea while heaven and earth are erected upon his shoulders. (See “From Hittite Mythology: The Kumarbi Cycle” in Part 8, Vol. III.) A sea beneath the netherworld is assumed by the Hittite myth of Telipinu, in which it is stated that in the netherworld there are bronze kettles in which the god’s impurities should be sealed up. These kettles are also mentioned in another ritual where

we are told that the netherworld goddess brings the impurities to the sea where the vessels have been set up.

In the Sumerian view, the netherworld lay beneath the groundwater, the “sweet-water ocean” Apsu. The netherworld was a sort of mirror image of the inhabited world—a city surrounded by a broad territory. The center of this city was a palace, which was occasionally called the “Mountain of Lapis Lazuli.” Here, deep in the earth, the god Ninazu was enthroned in the temple Egidda in the city of Enegi; later, at the end of the third millennium, he was replaced by his mother or his spouse, Ereshkigal. The name of the latter is composed of the elements EREŠ, “Lady,” and KI.GAL, “Great Land,” a designation for the netherworld. Her Akkadian equivalent is the goddess Allatum, whose name goes back to the Hurrian queen of the netherworld, Allani (*allai-ni*, “the Lady”). According to a Hittite festival text, Allani’s statue was clothed in a blue garment. In a myth contained in a Hurrian-Hittite bilingual text, Allani adorns and girds herself to dance before the storm-god Teshub. Another netherworld goddess is Lelwani, who corresponds to Allatum at Ugarit.

The Hattic population that preceded the Hittites in central Anatolia believed that the sun passes over the orb of the earth by day, sets in the west in the evening, and crosses the nether-

world by night. The sun-goddess was considered the ruler of the earth and the netherworld. She appeared in local forms as Eshtan or as Wur-zimu, the Hattic name for the sun-goddess of Arinna, chief goddess of the Hittite state pantheon. In the theological system of the Hittite priesthood, Ereshkigal and Allani were identified with aspects of this Hattic sun-goddess. A distinct spirit, known as the Dark Earth, is invoked by King Muwattalli (Muwatalli) II in a prayer. Along with "Heaven, Earth, Clouds, and Winds," Dark Earth appears in a garden ritual beside the sun-goddess of the earth.

In the Sumerian tradition of the first half of the second millennium, the palace of Ereshkigal was surrounded by seven walls. In each wall there was a gate that led in the direction of the palace. (See "Death and the Afterlife in Ancient Mesopotamian Thought" earlier in this volume.) A doorman guarded each gate; the "chief doorman" was called Neti. The Sumerian picture of the palace of the netherworld was picked up in the Old Hittite myth of Telipinu, which mentions the seven bolted doors of the netherworld. In Hittite ritual of the fourteenth century, the sun-goddess of the earth is charged "to open the gate," and in the Hurrian myth previously mentioned, the netherworld goddess Allani invites Teshub to a meal in her palace.

The highest official and imperial vizier of the netherworld was the god Namtar, "Destiny." Other high officials, inferred from Babylonian material via the Hurrians, were the heroes Gilgamesh, who bore the titles "Governor" and even "King of the Netherworld," and Etana, legendary king of Kish. A roster of the court and the bureaucracy of the Sumerian netherworld palace also appears in the Hittite texts. The servants of the sun-goddess of the earth are invoked in a prayer to the Lady of the Netherworld. They include: "Minister in Charge of Servants," "Chief of the Eunuchs," "Chief of the Barbers," the deities Darawa and Paraya, and Khilashi ("Spirit of the Gate Courtyard [of the Netherworld]").

As a rule, the deities of the netherworld are grouped as an undifferentiated collective under the Sumerian conception A.NUN.NA (Akkadian *Anunnakkū*), perhaps to be translated as "Those of Princely Descent." In the Sumerian epic *Inanna's Descent to the Netherworld*, these

Anunna-deities are called the "Seven Judges." Allusions to activities of the Anunna during the precosmic phase of the world—for example, their role in the creation of the "Pure Hill" (DU₆.KÜ₃) in the "Disputation Between Ewe and Grain"—demonstrate that they belonged to the earliest generation of the gods. Therefore, the Old Syrian/Hittite group of "Primeval Deities" in the entourage of the barley-god Kumarbi and the Hurrian "Deities of the Deep" may be identified with them. These "Father and Mother Deities" of the great cosmic forces were gathered in groups of seven, nine, or twelve. Their names form rhyming pairs, for example, Minki-Ammunki, Iltara-Taishtara, and Muntara-Mutamara. Two have epithets: Zulki is the "(Lady) Seer" and Irpitiga is "Lord of Judgment."

Natural cavities constituted entrances to the Dark Earth. Animals sacrificed to netherworld deities were slaughtered in pits. Springs, wells, and ponds were connected to the netherworld. The storm-god of Nerik entered the netherworld down through a spring, and springs bubbled up to the earth from the netherworld. The incantation priest made contact with the powers of the netherworld by means of artificial pits. He placed a bronze ladder in the pit so that the deities would climb up out of the netherworld to take part in the ritual activities. He also set there a copper ear so that they might be able to hear the evocations. Finally, every grave in the Earth offered direct passage to the netherworld.

In the Hurrian-Hittite myth reporting the visit of Teshub to the netherworld, Allani is called the "Bolt of the Underworld." The Hurrian word *nekri* (translated in a bilingual text by Hittite *hattalu*-, "bolt"), actually means "(river) bank." Additionally, in the personal name Papanekri (literally, Mountain-Bank) it has the extended meaning "boundary." Such a frontier point between this world and the Beyond is constituted by the inn of Siduri in the tenth tablet of the Gilgamesh epic. Gilgamesh, searching for a passage to the other world, encounters a barmaid with the Hurrian name Ziduri/Siduri (maiden), who shows him the way to Urshanabi, ferryman of the netherworld river Khubur. (See "The Gilgamesh Epic: A Masterpiece from Ancient Mesopotamia" in Part 9, Vol. IV.)

Here the motif of removal comes into play.

In the northern Anatolian Illuyanka myth, the mortal Khuppashiya has sexual contact with the goddess of the countryside, Inara, who carries him off to a rock palace and forbids him ever to look out the window, lest he gaze back into this life, see his family, and demand to return to them. The underlying concept here is the widespread idea that one's nature in the afterlife is similar to that in the present existence, but that the soul is nonetheless seized with longing for the previous life.

The transition to the netherworld was considered the unavoidable and irreversible end of human earthly existence. An inhabitant of the netherworld was known as a GIDIM (ghost of the dead); the netherworld itself was the "house of the ghosts of the dead." In the Hittite version of the Gilgamesh epic, the giant Khuwawa threatens the heroes Gilgamesh and Enkidu: "I will smash your skulls and send you down to the Dark Earth!" The undesirability of residence there is demonstrated by a passage from a Hittite letter, in which the writer is full of grief over the illness of the queen: "Because of this my soul has gone down to the Dark Earth." Eventual return to the land of the living was possible only for a ghost.

A substitute ritual for the Hittite king holds out a far better lot for the dead ruler: "You have summoned me (the king) to the spirits of the dead. I have presented myself to you, O Sun-god of Heaven, my lord. Now admit me to my divine destiny among the gods of heaven, and release me from the midst of the spirits of the dead!"

CREMATION AND BURIAL RITUALS

The ritual for the dead eased the transition of the deceased from the society of the living to that of the dead. The uninterred dead person prolonged his or her existence in this world as an aggressive, wandering ghost, threatening the society of the living.

It is not known what legal or ritual measures were generally taken upon the death of a king or queen, beyond the cremation of the corpse. A certain indication is perhaps provided by the following, not entirely clear, passage from the

Testament of Khattushili I, in which the deathly ill king turns to his wife² Khashtayar, with the words: "Wash me (my corpse) well! Hold me to your breast; at your breast protect me in/through the Earth!"

The texts of several cremation rituals known from the Empire period are all concerned with a death in the royal family. The best preserved is a fourteen-day ritual (described in detail below) entitled "When a great sin occurs in Khattusha, in that the king (or) queen dies." The death of the king or queen is a "great sin," a profound event bringing about a crisis in the cosmos, since without the charisma of the ruler, the existence of society and the fate of the land are endangered.

In many of their details the Hittite cremation rituals stand in the North Syrian–Hurrian tradition. Although cremation is sporadically attested archaeologically in Anatolia from the late Early Bronze Age on, its employment in Hittite ritual seems to stem from Hurrian influence. One poorly preserved ritual incantation uses the Hurrian term *tarri* (fire); the next paragraph discusses the incineration of the corpse.

The grave seems to have been conceived only as a transit station, since in the afterlife the king led the existence of a husbandman and cultivator. On the eighth day of the ritual offerings included clothes; oxen, horses, mules, and sheep; a piece of turf, which represented a meadow; and all sorts of farming implements in broken condition. From these grave gifts and from the address to the dead ("When you go to the pasture") it is evident that Hittites believed that after death one led a life similar to that in this world. This existence was not restricted to the royal circle but included other members of society. The grave gifts of the Hittite cemetery of Osmankayası, for example, include horses, asses, and donkeys and their skulls. This practice is attested at Tuttul (Tell Bi'a) in northern Syria (third millennium), where an equid was discovered in connection with a woman's grave.

It remains uncertain whether the afterlife is to be associated with the subterranean realm of the dead of Ereshkigal or Allani, or whether we are dealing here with an afterlife located far to the west, a sort of crossing point between "above" and "below," perhaps in the sense of Homer's asphodel meadow (*Odyssey* 11.538).

The Fourteen Days of the Hittite King's Cremation Ritual

The site of the fourteen-day ritual was Khat-tusha, where the remains were laid to rest. When Sharri-Kushukh, king of Carchemish (Karkamish), died in Kizzuwatna (Cilicia), his brother Murshili II transported the corpse—or perhaps the ashes—not to Carchemish but to the capital Khattusha. The participants in the royal funerary ritual were the newly installed king, high officials and their wives, various cultic functionaries, and wailing women. The corpse was burned at a special location and placed in a grave chamber, the “Stone House.”

First Day The ritual associated with the death of king or queen calls for a prohibition on eating as an expression of the period of troubles now commencing: “When a great sin/chaos² occurs in Khattusha, in that the king (or) queen dies, then everyone, high and low in rank, takes away the tubes for drinking (beer) and begins to wail in mourning.” On the first day a plow ox is slaughtered at the feet of the corpse. The sacrifice is for the soul of the deceased, and begins with the words: “As you have become, so let this ox become, and lower your soul to this ox.” The sacrifice of the ox is accompanied by a libation of wine; the wine jug is then broken and given to the dead in a useless condition. After sunset a cathartic rite takes place. A male goat is swung back and forth over the dead; the purpose of the rite is purificatory. The words of the accompanying incantation have not been preserved.

Second Day The ritual activities of the second day have been only very scantily preserved. The deceased is transported by means of a cart drawn by draft animals to an intermediate location where a tent is erected; then the corpse is taken to the cremation site. Offerings of food are made for the sun-goddess of the earth (Allani), the sun-god of heaven, the ancestral spirits (grandfathers and grandmothers), and the deceased. Finally, the Day of Death, euphemistically called the “Favorable Day,” also receives a libation. The day concludes with another lamentation for the dead.

Third Day The ritual descriptions for the third through the seventh days are preserved only in fragments. The burning of the corpse must have been carried out on the evening of the third day. Reconstruction of the ritual is aided by the tablet, probably belonging to this series, that describes the disposition of the bones.

Fourth Day A small fragment of a tablet belonging to this day describes the participants in rites of lamentation. First in importance is the newly installed king, who is accompanied by dignitaries and their wives. The narrative of the disposition of the bones probably belongs to this day. The remains of the incinerated bones are wrapped in a linen cloth; they are set on a chair if the deceased was a king, and on a stool if she was a queen. The chair or stool is placed before a laden table, from which all who have taken part in the ritual share a funerary repast in the presence of the deceased. Three toasts are drunk, and three times drink is offered to the soul of the dead.

Fifth Day On the fifth day an incantation priestess fashions an image of the deceased from raisins and olives, adds various foodstuffs to it, and sprinkles beer on top, in order that the spirit of the dead might be attracted to the tasty food and take possession of the image. She takes a scale and sets silver, gold, and precious stones in one pan and clay in the other. A dialogue commences between two incantation priestesses. The first question involves deciding who should lead in the deceased; the deceased is to be referred to by name. An escort by men of Khatti is rejected. An abrupt suggestion that one of the priestesses might take some of the silver and gold is likewise refused.

Sixth Day According to the summary tablet for the fifth through the fourteenth days, on the sixth day two oxen and eighteen sheep from the palace property are offered to the sun-goddess of the earth (Allani) and to the soul of the deceased. Next the gathered bones are transported to the “stone house” (É NA₄), the grave chamber. In a village, the bones are laid upon a couch, before which a lamp and the repast for the dead (bread, honey, and meat) are set.

Seventh Day The seventh day is characterized in the summary tablet by the sentence "Straw is burned." A seated image of the deceased is fashioned and is accompanied into the interior court by the wailing women. There, a garment, a container of oil for anointing, and straw are incinerated. Wine and beer pitchers are smashed. The wailing women make an offering of an ox and eight sheep, which are distributed to Allani, the ancestral spirits, the soul of the deceased, and the Day of Death. The deceased alone, however, receives some of the liver. The wailing women "circle outside" the ritual site. After a special food offering for the sun-god, earth/dust is brought from a certain place, "and she brings him in to where the heads of horses and oxen were burned."

Another funerary repast follows, to which "[they] bring the image [of the deceased]." The meal consists of drink offerings for the sun-goddess of Arinna, the storm-god, the storm-god of Zippalanda, and finally for the Protective Deity and Allani. The bread offerings that follow are intended for the soul of the deceased and for the Day of Death. Then the jesters taking part in the rite cry out "small place!"—perhaps a euphemism for the grave—and fall silent. "If, however, the day is favorable, then they sweep (the ground) and call out '*ḫalentuwa*' (royal residence)." Additional food and drink offerings for the Protective Deity and Allani close the day. Finally, the participants drink three times to the soul of the deceased; the Day of Death is included in the third toast. They call the dead by name and set out bread for him on the hearth.

Eighth Day The summary tablet characterizes this day with the phrase "conducting of water." A list of materials for the ritual notes: "On the eighth day the pig conducts water (in) and they cut out a piece of turf." Some of the utensils necessary for the ritual activities of this day are: "(One) pig's snout of silver weighing ten shekels, a vat of silver weighing twenty shekels, picks and shovels inlaid with silver in three places, three drain pipes inlaid with silver, five silver vessels, (. . .), of which one vessel is of gold (. . .); fourteen small stones, of which seven (are) of rock [crystal and seven] of lapis lazuli." A few of these objects, perhaps intended as grave

goods, are mentioned again in the poorly preserved ritual instructions.

After the "conducting of water," the deceased is fitted out for his existence in the next life in accordance with his social position. Oxen, sheep, horses, and asses are slaughtered near a spring and presented to the deceased, whose image sits upon a cart. A legal ceremony is conducted before the sun-god: "O Sun-god, see, we [have slaughtered] these [animals . . . , let no-one] take them away from him or contest them legally with him!" Five *arta*-birds are slaughtered in a pit, probably for the netherworld and oath deities. A jug of wine, which then is broken, is presented to the deceased. Ashes from incinerated picks and spades are scattered "where [the heads of the horses and the heads] of the oxen have been burned." Further, as in the Irish ritual for the dead, the deceased receives a divot of turf that will serve him in the afterlife as pasture for the oxen, sheep, horses, and mules. This appropriation is also fixed by means of a legal act, by which all these objects are displayed to the sun-god: "Now, O Sun-god, confirm him in possession of this pasture! Let no-one take it away from him (or) contest it legally! May oxen, sheep, horses, and mules graze for him on this pasture!"

The piece of turf is taken to the place of cremation, where the image of the dead and the sun-god each receive a libation. The image is now set on a golden throne in a ritual tent that has been pitched there. "If, however, it is a woman, she sits upon a golden stool." An offering ceremony is conducted and the sun-god, the storm-god, the Protective Deity, Allani, the ancestral spirits, and the soul of the deceased each receive an offering of food. Probably at the end of this day an image of the dead is drawn in fruit upon a pile of grain in the gate building of the *ḫalentuwa* (royal residence).

Ninth to Eleventh Days The activities of the ninth through eleventh days have not been preserved, and the summary tablet does not give a clear picture of the rituals. In damaged context it reports of the ninth day: "they decorate"; of the tenth: "Day of the plow, at the threshing floor [. . .], but in the night him [. . .]"; and of the eleventh: "Of sprinkling . . . and they bring him a blossom."

A small fragment may be assigned to the tenth day. Furrows are drawn with a plow, and the wailing women begin to lament. The plow is smashed and then burned. The incantation priestess takes the ashes and scatters them on the place of burning. Later, oxen are slaughtered and the meat is taken by the cooks.

Twelfth Day According to the summary tablet, the cutting down of a grapevine is the high point of the ritual activities of this day. Early in the morning a blood sacrifice of a fattened ox and seven sheep is prepared for the image of the deceased, which still remains in the "house," probably the palace. One sheep each is intended for Allani and the sun-god of heaven; two sheep for the ancestral spirits, one for the males and one for the females; two sheep and the fattened ox for the soul of the deceased; and one sheep for the Day of Death. After a piece of liver has been held out to the deceased, they bring the image out of the house and place it on the cart, which sets off for the ritual tent. The wailing women walk behind the cart.

The ceremony of the cutting down of the grapevine follows. The vine is decorated with ribbons, real grapes, and artificial grapes made of wool. The vine is carried into the tent by the wailing women and is leaned against the table of the deceased. Various items are prepared for the deceased: an expensive tray, grapes, wheels of dough, a sumptuous garment, a container of fine oil, and other items, the identity of which has been lost in the damaged text. The animals are slaughtered. They hold the scales up to the sun-god and recite the formula of legal claim.

We can learn something about the ceremony of the scales from tablets that describe another kind of ritual. On the second day of this separate ritual, silver, gold, and precious stones are presented to the deceased. The valuable materials are placed in one pan of the scales, and clay is set in the other. During the ceremony of legal claim, the incantation priestess and "her associate" recite a dialogue in which the incantation priestess says to her associate as follows, mentioning the deceased by name: "Someone is bringing him, so-and-so. Who (now) is bringing him here?" Her associate answers: "The Men of Khatti, the righteous⁹, will bring him here!"

The former says: "They shall not bring him here!" Her associate replies: "Take the silver and gold!" The former says: "I will not take it." They speak thus three times. The third time she says as follows: "I will take the clay." Then the scales are broken before the sun-god.

The ritual activities on the twelfth day continue as the image of the deceased is carried down from the cart and placed on its golden throne in the ritual tent. The sun-god, the storm-god, the Protective Deity, and Allani are invited to a funerary repast where they receive food offerings. Food is also offered for the ancestral spirits and the soul of the deceased. The tray is now destroyed, brought into the Stone House, and set upon the hearth. It seems that the deceased is already in the burial chamber, since "the sumptuous garment and container of fine oil are held out to the deceased and placed upon the hearth." Again, a wine jug and a beer pitcher are destroyed.

A member of the royal clan cuts down the grapevine with a silver hatchet, an offering vessel is smashed, and the wailing women begin to lament. The decorated vine is set on the hearth and the wailing women "turn themselves," that is, they dance around the hearth. The hatchet remains in the possession of the one who cut down the vine. The image of the deceased is transported from the tent to the cart and is carried to another location; once again, it is followed by the wailing women.

Thirteenth Day According to the summary tablet, the high point of this day is the ritual of the gulls. Ten of these birds are formed of wool, dough, and wood, and plated with silver. The heads of five of the gulls are covered with gold. In addition, a few living birds of this type (sheldrakes may be substituted) are attached to the artificial birds. "Then [they hold] them twice in the window. The third time [they speak] thus." The following lines are mostly lost, but it is clear that the image of the deceased is incinerated, and the gulls, as well as silver and gold, are brought into the grave chamber, where the live and the artificial birds are burned beside an oak tree or a piece of oak timber. This day also concludes with a funerary repast.

Later, a newly made image is placed on a sort of pedestal next to the golden throne. The grape-

vine is once more set on the hearth, and an ox and eight sheep are sacrificed for the soul of the deceased. A taste of the roasted livers and hearts is given to the deceased. In the course of nine further food and drink offerings for the soul of the dead, the grapevine is anointed, probably also nine times. After an offering to the Day of Death, the death goddess Allani and the ancestral spirits receive bread and drink offerings.

During the night, a festive libation of wine is performed next to and for the deceased. Two cupbearers stand to the right and to the left of the hearth, and with their jugs they sprinkle on the hearth the wine intended for the soul of the deceased. Afterward, they place loaves for the image and for the deceased "upon the knees of the human," and they say, "See, for you we have set the loaves of bread upon your feet. Don't be angry any more. Be good to your children. May your kingship endure for your grandchildren and great-grandchildren! It shall come about that your 'god's house' will receive honor, and offerings will be set for you."

After this prayer, baked goods and fruit are laid out before the deceased; this ritual is referred to as "the business of the feet." Next comes a peculiar rite involving a rope: "They bring in a rope. They oil it up with fine oil and throw it upon the hearth. Flour is piled upon it. The wailing women lament: 'If you go to the pasture, you shall not pull the rope.'"

The nocturnal ceremony revolves around the *lalhuntalli*-vessel, which supplies drink for the image and the soul of the deceased. Later, it and "the beaker of his soul" are destroyed. The wailing women sing and lament in a particular manner. Then the ritual tent is carried into the gate structure.

Fourteenth Day All that is preserved for this day is a reference in the summary tablet.

Ritual by a Priestess

Noteworthy peculiarities are found in the funerary or cremation ritual featuring a priestess of the goddess Ishkhara and her associate Silalukki. In this ritual, Khamishkhara, a form of Ishkhara, is of central importance. Apropos of a sort of evocation of the spirit of the dead, a type of priest called the *patili* "calls away from the

deceased the gods (that is, the demons swarming about him) by means of a cry."

The ritual contains another dialogue, this time between the *patili*-priest, who is located on the roof of a house, and a cultic functionary within that house. The two represent the gods:

Then the *patili*-priest who is up on the roof cries down into the house. He calls the deceased by name: "Where (has) he gone?" And the gods with whom he is abiding answer: "He has gone to the *šinapši*-house." The former calls down (again) (from the roof): "Where has he gone?" And the gods with whom he is still abiding answer: "He (has gone) thither." As soon as the gods have been dealt with, and the textiles which at his (. . .), then they answer from below: "He came here, or (he went there)." He speaks down from the roof six times, (and) they speak upward six times. But when he speaks down for the seventh time: "Where has he gone?," (then) they answer him from below: "The mother (came) to him (and) took him by the hand, and led him." Then they pull up (the container) and smash it. (And they begin) to lament.

ANCESTOR CULT OF THE HITTITE DYNASTY

The powers of the deceased, which were in no way extinguished upon death, reached from the netherworld to strengthen the powers of his clan. The deceased remained in constant contact with the living, and a particularly close connection existed between the deceased and his grandchild. The grandfather passed along his powers—his very self—to the grandchild. This widespread conception is demonstrated by the relations between grandfather and grandson in Hittite divine families, as well as by the sequence of throne names of the Hittite dynasty from the Middle Kingdom onward, in which grandfather and grandson bear the same name. (The usurper Shuppiluliuma I presents an exception.)

When the Great King Muwattalli II transferred the Hittite royal residence from Khattusha to Tarkhuntassha, he carried with him "(the gods) of Khatti and the ancestral spirits." He "took them to the Land (of Tarkhuntassha)" because the ancestral spirits belonged to the house of a family "like the bare walls."

The Cult of Shiu(n)

Shiu(n) is mentioned in the earliest Hittite document, the Anitta text. The term *šiu(n)*, which goes back to Indo-European **d̥iēu* via **d̥iēu*, was the designation of the Indo-European immigrants' highest god of heaven and light. He could also be represented by the Sumerogram for "Sun-god/day," and was provided with an enclitic pronoun: *šiuš-šmiš*, "your Shiu," or *šiuš-šummiš*, "our Shiu."

In the Old Hittite tradition, the king is identified with the sun-god: "O Sun-god of the Gods, as *marnuwan*-drink and beer mix fully with one another (and) their soul and body have become one, so may the soul and body of the Sun-god of the Gods and of Labarna (the King) become one!" This identity is expressed in the royal title "My sun-god," and above all in the custom of addressing the king as "sun-god." Khattushili I is identified with the sun-god in the historical-mythological narrative of the crossing of the Taurus Mountains.

The identification of the inherited Indo-European god of light with the sun-god contrasted with the central Anatolian Hattic conception of the sun-deity as female. Thus, at an early date kingship was connected with a sun-goddess, and *šiu(n)* became the general term for "deity." His individuality was preserved, however, solely in the private realm of the cult of royal ancestors, where *šiu(n)* continued to be honored with his own worship in the *hišta*-house. The euphemism for the death of the king, queen, and even royal children was "to become Shiu"; apparently the Hittites believed that at death the soul of the deceased royal person fused with Shiu.

The Institutions of Ancestor Worship

Four institutions are connected with the ancestor cult of the Hittite ruling house: the sacred *hišta*-building, whose etymology remains unexplained; the institution of the *hekur*; the "House of the Grandfather"; and the temple of the storm-god of Khatti. With the exception of the last, these institutions are part of the private realm of the Hittite king.

Belonging to the private cult of the king and not to the state religion, the *hišta*-house seems to have been part of the palace precinct on Bü-

yükkale. Since the Old Hittite period, the *hišta*-house was also the temple of the death goddess, Lelwani. She and eight other deities were worshiped there: Shiwat (Day [of Death]), the goddesses Tashamatta-Tashimetta, the goddesses of Destiny Ishtushtaya-Papaya, a sun-deity, Khashammeli, and Zilipuri. In addition to these nine chthonic deities, the god Shiu assumed a prominent position in the *hišta*-house, where he had his own chapel.

The ceremony of the installation of the spirit of the deceased in the *hišta*-house was carried out on the eleventh day of the spring AN.TAḪ.ŠUM^{SAR} (crocus?) festival, as well as during the autumn KILAM (gate-structure) festival. A small fragment describes the rite: "The jesters have dressed themselves in decorated garments. (. . .) they dance. The dancers set themselves in motion. The people (of the *hišta*-house?) set fruit and the spirits of the dead in place. (In accompaniment) the singers of Kanesh sing." During the AN.TAḪ.ŠUM^{SAR} festival the cooks set up a spirit of the dead and *gaggapa* (-fruit?). At the New Year's festival the completed years are interred in the form of hieroglyphic signs, a rite similar to the treatment of "past time" at Ebla during the third millennium. (See "Music, Dance, and Processions in Hittite Anatolia" in Part 10, Vol. IV.)

Closely connected to the royal ancestor cult was the *hekur*-house, an institution whose name seems to mean "the House (which is) a Mountain." Shuppiluliuma II reports that he ordered the fashioning of a statue of his father Tudkhaliya IV and its installation in the "enduring/eternal rock *hekur*." The royal ancestor worship in the *hekur* was the responsibility of the direct line of the ruling house. Only the Great King, as the legitimate heir, was fit for this office. Thus Khattushili III excluded his nephew Urkhi-Teshub, son of Muwattalli II, from the cult of the ancestors. (See the essay "Khattushili III, King of the Hittites" in Part 5, Vol. II.) Only later, in his treaty with Ulmi-Teshub/Kurunta, did Tudkhaliya IV allow another son of Muwattalli access to the "enduring/eternal *hekur*." The location of this installation—whether in the subsidiary chamber of Yazılıkaya or even perhaps in Tarkhuntassha—remains uncertain.

The House of the Grandfather, or the House of the Grandfather of His Majesty, was located

not only in Khattusha but also in the city of Shammukha. It was closely associated with the *hišta*-house, as well as with the palace and offerings for deceased kings. During one festival, the House of the Grandfather provides some of the natural products intended as offerings. “In the House of the Grandfather (of the King) fire is swung over (the gods of the father). (That is, they are magically purified.) Then they place offerings on a table for the gods of his father.” In a festival in honor of Teshub and Ishtar of Lawazantiya, Teshub and “the gods of the father” are provided for with a shared ceremony. The “Gods of the Palace of the Grandfather” who are invoked by Muwattalli II in a prayer immediately after the state deities (the storm-god of lightning; the sun-goddess of Arinna; Khepat, Queen of Heaven; and Ishtar) are probably identical with the “Gods of the Father.”

A distinct cult for dead rulers is attested by offering lists setting forth food rations for kings present in the form of statues. This type of cult for the ancestral dead derives from the Syro-Mesopotamian traditions of the third millennium. Hittite texts of this genre fall into two groups. The first group lists offerings only for Great Kings who once ruled. The second group names the Great Kings, Great Queens, and other members of their families. The clan of Shuppiluliuma I is particularly featured here, while the rulers of preceding epochs are given rather short shrift. The kings’ names conclude with that of Muwattalli II, and it is likely that some of these texts were assembled only rather late.

That the statues were erected and worshiped in the temple of the storm-god of Khatti is demonstrated by two texts that include offerings for the guardian *damnaššara*-sphinxes and the god Shuwaliyat, followed by the sacred places of the building, the ceremonial spear, the chariot, and the pair of bulls Sheri and Khurri. Each of these recipients of offerings are known to have been housed in the temple of the storm-god of Khatti. Statues of deceased kings were also to be found outside of this temple. Thus, there were statues of Khattushili I in the temples of the sun-goddess of Arinna and of the war-god Zababa. A statue of Tudkhaliya IV was set up in Yazılıkaya.

The offering lists for deceased kings and members of their families called for sacrifices of oxen and sheep. The following excerpt prescribes

such an offering for the Great Kings and their spouses:

(. . .) Khuzziya (. . .), for Labarna one ox and one sheep (likewise); for Kaddushi the one ox [and] one sheep likewise; for Murshili one ox [and] one sheep likewise; for Kali one ox [and] one sheep likewise; for Pimpira one ox ([and] one sheep) likewise; for Khuzziya, the Man of Khakmish, the (one) ox [and] the one sheep likewise; (fo)r Khantili the one ox [and] one sheep likewise; (fo)r Kharabsheki one ox [and] one sheep likewi(se); (fo)r Ammuna one ox [and] one sheep likewi(se); (fo)r Tawanna[na] one ox [and] one sheep l(ikewise).

The following excerpt from a list presents ancestral Great Kings together with their spouses and princes:

(One ox) and one sheep from the kitchen he consecrates. (. . .) of the kitchen (. . .) for Kantuzzili (. . .) of the kitchen (he consecrates) likewise (. . .) for pu-Sharrumma, son of Tudkhaliya, [father] of Pawakhtelmakh, father of [Labarna?] he consecrates likewise. (. . .) for Pimpira, for (. . .) of the kitchen (he) consecrates likewise (. . .) for Ammuna, (and for Khuzziya?) the (cup)bearer (he consecrates) likewise. (For . . . one ox) and one sheep he consecrates (likewise. One ox) and one sheep for Alluwamna (of) the kitchen (he consecrates likewise).

NECROMANCY

Incantations to the souls of the dead, “calling the spirit(s) of the dead by name”—whether to interrogate them or to drive them out—are attested throughout the entire ancient Near East. (See “Death and the Afterlife in Ancient Mesopotamian Thought” earlier in this volume.) In an oracle question, the anger of the spirit of the dead is announced; a Hittite library catalog lists a work entitled “If a Ghost Gives Someone a Sign.” In the House of the Grandfather, a Hittite king had a dream vision concerning a ritual for the netherworld goddess. Oracle questions carried out in the House of the Grandfather show that the ancestral spirits could pass along information about future events.

Of probable Hurrian origin is the eschatological-utopian notion of the eventual return of “the earlier kings,” who would “test the land and its customs” in the distant future.

CONCLUSION

The conceptions of the netherworld and existence of the soul after death preserved in Hittite tradition do not present a unified picture. On the one hand the deceased continued his existence as an animal husbandman and peasant, while on the other we also encounter the conception, borrowed from Sumerian Mesopotamia, of a netherworld city centered around a palace in which dwelt the goddess of death. This palace later entered into the netherworld conceptions of Greek antiquity. There, however, it was Hades, son of Kronos, who sat upon a throne of stone to exercise judgment over the dead.

Hittite incantation priests were said to entrust evil and harm to the netherworld, locking them within pithoi (large earthenware jars) or in kettles from where only magic and witchcraft could release them. The notion came to be known among the Greeks who tell us that once, long ago, Pandora thoughtlessly opened the lid on the jar entrusted to her, thus loosing on earth all the troubles and outrages that continue to plague humanity.

Translated from the German by Gary Beckman

BIBLIOGRAPHY

Netherworld

ALFONSO ARCHI, "The Names of the Primeval Gods," *Orientalia*, n.s. 59 (1990):114–129; HANS GUSTAV GÜTERBOCK, *Kumarbi: Mythen vom churritischen Kronos aus den hethitischen Fragmenten zusammengestellt, übersetzt und erklärt* (1946); VOLKERT HAAS, "Die Unterwelts- und Jenseitsvorstellungen

im hethitischen Kleinasien," *Orientalia*, n.s. 45 (1976):197–212; HEINRICH OTTEN, "Die Überlieferungen des Telipinu-Mythus," *Mitteilungen der Vorderasiatisch-Ägyptischen Gesellschaft* 46, no. 1 (1942), and "Eine Beschwörung der Unterirdischen aus Boğazköy," *Zeitschrift für Assyriologie* 54 (1961):114–157; and GERD STEINER, "Die Unterweltsbeschwörung des Odysseus im Lichte hethitischer Texte," *Ugarit-Forschungen* 3 (1971):265–283.

Funerary Ritual

ALFONSO ARCHI, "Il dio Zawalli: Sul culto dei morti presso gli Ittiti," *Altorientalische Forschungen* 6 (1979):81–94; KURT BITTEL, "Hethitische Bestattungsbräuche," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 78 (1940):12–28; KURT BITTEL et al., *Die hethitischen Grabfunde von Osmankayasi*. Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, vol. 71 (1958); LISBETH CHRISTMANN-FRANCK, "Le rituel des funérailles royales hittites," *Revue Hittite et Asiatique* 29 (1971):61–84; HEINRICH OTTEN, "Bestattungssitten und Jenseitsvorstellungen nach den hethitischen Texten," in *Die hethitischen Grabfunde von Osmankayasi*, edited by KURT BITTEL ET AL. (1958):81–84, "Eine Lieferungsliste zum Totenritual der hethitischen Könige," *Die Welt des Orients* 2 (1954–1959):477–479, *Hethitische Totenrituale* (1958), and "Zu den hethitischen Totenritualen," *Orientalistische Literaturzeitung* (1962):229–233.

Ancestor Worship

ALFONSO ARCHI, "Die ersten zehn Könige von Ebla," *Zeitschrift für Assyriologie* 76 (1986):213–217; VOLKERT HAAS and MARKUS WÄFLER, "Bemerkungen zu *Eḫeštīlā*," *Ugarit-Forschungen* 8 (1976):65–99 and *Ugarit-Forschungen* 9 (1977):87–122; E. NEU, *Der Anitta-Text*, Studien zu den Boğazköy-Texten, vol. 18 (1974); and HEINRICH OTTEN, "Die hethitischen 'Königslisten' und die altorientalische Chronologie," *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 83 (1951):47–71.

SEE ALSO *Death and the Afterlife in Ancient Egyptian Thought* (Part 8, Vol. III); *Death and the Afterlife in Ancient Mesopotamian Thought* (Part 8, Vol. III); *Theology, Priests, and Worship in Hittite Anatolia* (Part 8, Vol. III); and *Hittite Prayers* (Part 8, Vol. III).

Myth and Mythmaking in Canaan and Ancient Israel

MARK STRATTON SMITH

TODAY, PEOPLE TEND TO EQUATE “myth” with what is “untrue,” and dictionaries list this perception among the definitions they give for the word. Contemporary monotheistic creeds commonly give three stereotypical explanations: (1) that monotheistic theology debates articles of faith while ancient myths merely told stories; (2) that the holy texts of monotheistic creeds leave little room for myths because they affirm the existence of one God and therefore fall outside the definition of myth as “a story about gods (plural)”; and (3) that monotheistic beliefs are grounded in historical events while those of ancient religions are not.

Yet recently, essayists have moved away from formulations such as these and have sought to uncover the truth behind myth and mythmaking. Myths, according to followers of Carl Jung, are stories reflecting the unfolding of human consciousness. For anthropologists, myths are statements about the society and how it understands itself in its various aspects.

The term “myth” constitutes an appropriate designation for many texts in ancient Israel and among its neighbors (often termed “Canaan”). The mythic material shared by Canaan (as paralleled in the Ugaritic texts) and Israel reflects cultural continuity between Canaan and Israel. Although the Ugaritic texts are not Canaanite in the strictest sense (since the city of Ugarit probably lay beyond the boundaries of ancient

Canaan), biblical reflexes of the material from the Ugaritic mythological texts show that the narratives, reflected especially in the *Baal Cycle*, were known in ancient Canaan as well as in Israel.

MYTHIC MATERIAL IN CANAAN

The Ugaritic Story of the Baal Cycle

The single Ugaritic document that extensively describes cosmic reality is the fourteenth-century *Baal Cycle*. Other long poetic texts, such as *Aqhat* and *Keret* (or *Kirta*) focus on relations between divinities and human beings in days long past. (For a more detailed study, see “The Literatures of Canaan, Ancient Israel, and Phoenicia: An Overview” in Part 9, Vol. IV.) The *Epic of Aqhat* recalls how Danil (probably the personality mentioned in Ezekiel 14:14, 20 and 28:3) acquired a son, Aqhat. This son was killed by a henchman of the goddess ‘Anat (Anath) because he refused her his bow (this request may connote sexual desire). Aqhat was avenged by his sister who set out to kill ‘Anat’s henchman in a manner reminiscent of later Israelite stories about Jael’s slaying of Sisera (Judges 5) and Judith’s destruction of Holofernes. The narrative of *Keret* recounts how, with the help of the god El, Keret acquired a bride and overcame subse-

quent illness. In these narratives, Danil appears as a patriarchal figure and Keret is depicted as an ancient monarch.

The six tablets of the *Baal Cycle* describe another heroic, royal figure, but this time it is the storm-god Baal. The *Baal Cycle* provides much more information about the main divine players than the stories of *Keret* and *Aqhat*. It opens with El's proclamation of Yamm (Yam = Sea) as the king. El, whose name literally means "god" or "the god," is the chief executive of the pantheon. The story continues with the preparations for the construction of a palace for Yamm deemed symbolic of his new monarchical status in the cosmos. Everyone in the pantheon apparently accepts this plan, except for the storm-god Baal, whose name means "lord" or "the lord." As a result, El turns Baal over to Yamm as prisoner. Though he is called Yamm's captive, Baal nevertheless attacks him in the next scene. Baal is at the point of defeat when the craftsman-god, Kothar wa-Khasis (whose name means "Wise Craftsman") fashions two self-propelled weapons. The weapons, in the form of two great raptors, swoop down on Yamm. The first fails to defeat Yamm, but the second one vanquishes him. Baal is then declared king, and he celebrates his new kingship with a feast. Although Baal's fight is completed, 'Anat, Baal's sister and lover, continues to wage war on earth. She defeats her enemies and then eats those taken captive. This scene uses cannibalism as a metaphor for total victory and may reflect in the divine world what the destruction of enemy captives represents on the human level.

Eventually, Baal sends word to 'Anat that she should come to El. Through threats she tries to extort El's permission to build Baal a palace, but he remains unmoved. Baal then ventures on a different strategy. He bribes Athirat (biblical Asherah), the wife of El, with gifts made by Kothar. She responds favorably to these "gifts" and travels to El's home. Moved by the request of his wife, El grants permission for the construction of Baal's palace. Once El agrees, a series of activities follows: the acquisition of building materials; the summoning of Kothar; the construction of the palace on Baal's mountain, Mount Sapan (Zaphon); the dedication of the palace by a multitude of deities at a banquet; and finally an expression of blessing, in this case the opening of a

window in the palace by Kothar. Baal's thunder is heard throughout the world, a sign of the coming of rains and therefore the world's well-being.

No sooner is Baal king than this kingship is threatened by Mot (Death). Mot and Baal exchange threats, but in the end Baal is required to become Mot's captive just as he was once Yamm's prisoner. Accompanied by his stormy entourage of winds and clouds, Baal is required to descend to the netherworld, the domain of Mot. Baal's body is discovered and El and 'Anat mourn for him. El and Athirat begin to nominate Baal's successor from their own progeny. Fortunately, Baal is once again aided by his sister, this time more successfully. She first implores Mot for Baal's release, but Mot is unmoved. As a result, 'Anat slays Mot, and thus weakens his power over Baal. Baal returns to life. Sometime afterward, Baal and Mot engage in hand-to-hand battle. The conflict is indecisive until the goddess Shapshu (Sun), intervenes by informing the combatants of El's support for Baal. Mot stops fighting, and following his recognition of Baal's kingship, the *Baal Cycle* closes with a hymn.

The Political Vision of the Baal Cycle

The narrative of the *Baal Cycle* presents a powerful four-level vision of political reality: cosmic, human, natural, and individual. The *Baal Cycle* articulates a complex picture of the cosmos. This is not a story only about the conflict over power, for no single deity wields ultimate authority. Although Baal is declared king and keeps Yamm and Mot at bay, he never appears as the single dominant figure.

The struggle in heaven is expressed not in meteorological terms, but as a conflict between political enemies. Moreover, the political order represented by the *Baal Cycle* is a human one. A cosmic vision is expressed with political terminology, particularly the vocabulary of kingship. Because kingship is a central concern of the narrative, there may have been a political use for the Baal-Yamm conflict (and perhaps for the whole cycle): the dynasty at Ugarit considered Baal-Haddu (or Hadad) to be its special divine patron, and the scribal transmission and final production of the *Baal Cycle* may have had as their purpose, at least in part, the expression of political values on behalf of this dynasty.

A second-millennium letter from Mari confirms the political application of the storm-god's conflict with the cosmic sea. The letter, which dates to the reign of the King Zimri-Lim of Mari, quotes the storm-god Adad (= Haddu): "I s[et] you on the thr[one of your father]; the weapons with which I battled against Sea [*tâmtum*] I gave to you." This text provides the first external textual witness to the West Semitic conflict myth. In the letter written in Akkadian, the storm-god is identified as Adad, the Akkadian equivalent to Ugaritic Baal-Haddu. A list of divinities at Ugarit also indicates the equivalence of Adad with Baal. The god ^dIM *bēl ḥuršân ḥazi*, "Adad, lord of mount Khazi," corresponds to *b'l špn*, "Baal Sapan." The same list provides the correlation between Yamm and ^d*tâmtum*, "Tiamat"; both names mean "Sea." The Mari letter indicates that the weapons of the West Semitic conflict story held importance on the earthly level as well as on the heavenly level.

Descriptions of natural phenomena, especially lightening, thunder, and rains, are conspicuous in the *Baal Cycle*, where they are manifestations of Baal's power. Each of the three major sections of the *Baal Cycle* draw on the imagery of the transition to the fall season, when the rains begin in the Levant. In his battle against Sea in the *Baal Cycle*, Baal wields lightning as a weapon to presage the appearance of the autumn rains. In the second section of the cycle, El gives permission to build a palace so that Baal can produce the rains. Baal then throws his "holy voice" or thunders through the rift in the clouds. The third section expresses the issue of Baal's rain in a different way. El laments the condition of humanity because Baal's death signals the absence of rain. El later has a dream-vision that anticipates Baal's rains and the rejuvenation of the earth. The cycle recapitulates the progression of a single storm: it rises out of the west and battles over the Mediterranean Sea; then it reaches the coast at the site of Baal's mountain, and is "enthroned" for a short time; finally, it moves into the realm of Death toward the great Syrian desert, the graveyard of many a Mediterranean storm. The *Baal Cycle* likewise narrates the story of human life itself. In sum, the *Baal Cycle* replicates on numerous levels the basic fabric of reality through the theme of Baal's kingship.

Mythic Material Among Israel's Neighbors

Much of the Ugaritic mythic material continued to be invoked in first-millennium Syro-Palestine. Our information comes mostly from the study of inscriptions mentioning gods and goddesses and from the theophoric elements of personal names (that is, a person's name compounded with the name of a god). In total, a large list of gods can be collected from these sources. (See the box, "Deities Among Israel's Neighbors.")

Regrettably though, such sources provide little information about first-millennium religion and even less regarding actual mythic traditions. However, late classical sources do reflect Phoenician stories known also in variant forms from Ugarit. The conflict between Baal and Yamm appears as the story of Zeus's defeat of Typhon, placed on Mons Cassius, the classical name for Baal's home, Mount Sapan. Perseus's rescue of Andromeda from the sea beast takes place at Joppa (modern Jaffa), reflecting another local version of the conflict myth. The description of Zeus as a bull carrying off Europa in *De Dea Syria* comports with the Ugaritic notion of Baal as a bull. The traditions about the Tyrian god Melqart may reflect continuity with Ugaritic traditions about Baal and the cult of the divinized royal ancestors attested at Ugarit. Late classical sources call Melqart the "dead hero," who has an "awakening from death," perhaps a resurrection. The god is said to die by fire, which may have been modeled on the Phoenician practice of cremation. Levantine traditions about Adonis may also reflect continuity with older traditions about Baal. Adonis's death caused by an attacking boar, known from a variety of late classical sources including *De Dea Syria*, may reflect an old story narrating the attack on Baal by beasts.

The best source for Canaanite mythology from late antiquity is Philo of Byblos's *Phoenician History*, embedded in the first book of the *Praeparatio evangelica* by the fourth-century Christian historian Eusebius of Caesarea and in the work of Porphyry, a third-century philosopher. The *Phoenician History* covers many topics known from Ugaritic, Phoenician, and Greek sources, including cosmology, the history of cul-

ture, the history of Kronos and later rulers (largely paralleling El and the Ugaritic pantheon), human sacrifice, and serpents. Philo of Byblos provides important religious information: the form of prayer to Baal Shamem, a Phoenician solarized storm-god; divinized mountains; offerings of drink to the dead, divinized ancestors; a cult symbol with multiple wings and eyes resembling the description of the seraphim in Isaiah 6; and the practice of child sacrifice that appears first clearly in Phoenician-Punic and biblical sources (Isaiah 30:27–33; Ezekiel 20:25–26). This practice may be an implicit object of polemic in Genesis 22, which narrates Abraham's binding of Isaac, saved only by the hand of an intervening "angel" or divine messenger. (See the box on human sacrifice in the next essay.)

MYTHIC MATERIAL IN ISRAEL

Early Israelite Religion

According to the available evidence, early Israelite religion did not contrast markedly with the

religions of its first-millennium Levantine neighbors in either number or configuration of deities. Rather, the number of deities in Israel was relatively typical for the region. Furthermore, as in the religion of surrounding states, some old Canaanite deities continued within an Israelite pantheon dominated by a national god. Like some Phoenician city-states and perhaps Edom, early Israel knew El; Baal; Yahweh, the new dynastic or national god; the divine council; and perhaps the cult of a goddess. If so, this religious situation changed at an early stage in ancient Israel. Unlike its neighbors, Israel witnessed the gradual usurpation of divine realms and functions by its national god. During the period of the Judges, Yahweh developed a hegemony over a complex religion that preserved some old Canaanite components through an identification of El with Yahweh, either a compatibility with or rejection of Baal, and perhaps an early toleration for Asherah and subsequent assimilation of her cult and symbol, the asherah, a wooden pole. Israelite religion also continued a cult of deceased ancestors and the concept of the divine council and maintained the lowest tier of divine messengers, or

Deities Among Israel's Neighbors

The Ammonites had approximately ten deities. Milcom was the national god of Ammon (see, for example, Kings 11:5,33; Jeremiah 49:1,3). Ammonite proper names show a preponderance of the divine element *ʾl, which might suggest a close relationship between El and Milcom in Ammonite religion.

The deities of the Moabites are less well known. The patron god of the Moabite dynasty was Chemosh (1 Kings 11:7; Jeremiah 48:13). The name Ashtar-Chemosh appears once in the so-called Moabite stela. Both of these divine names are attested in Ugaritic texts.

Edom's deities include the national god, Qaws, attested in inscriptional material from Hurvat Qitmit and the writings of Josephus. This divine name appears as the theophoric element in several Edomite, Nabataean, and Arabian names, including those of Edomite kings. El (Genesis 36:39), Baal (Genesis 36:38), and Hadad (1 Kings 11:14–21; Genesis 36:35–36) also appear as theophoric elements in Edomite proper names. Some of these names were possibly old Canaanite deities that continued into first-millennium Edomite religion, although like the name of ʾAnat in Israelite names, these divine names may

not point to cultic devotion to these deities. A head of a goddess, presumed to be Edomite, was excavated at Hurvat Qitmit.

Byblos's deities were *bʿl šmm*, *bʿl ʾdr*, *bʿl*, and *bʿlt gbl*, "The lady of Byblos." The dynastic god of Byblos (modern Jubayl, biblical Gebal) was Baal Shamem (*bʿl šmm*), and the other deities perhaps were older Canaanite divinities. Sidonian deities included Eshmun, Astarte (biblical Ashtoreth), Resheph, and the deceased ancestors called the Rephaim. The treaty of Esarhaddon with Baal II of Tyre (ancient Tyrus) lists in order the deities of Tyre as Bethel, ʾAnat-Bethel, Baal Shamem, Baal-Malage, Baal-Saphon, Melqart, Eshmun, and Astarte. The initial position of Bethel, perhaps a form of El, may point to his primary status in the Tyrian pantheon. Inscriptions from nearby Sarepta (ancient Zarephath) include the deities *šdrpʿ* and *tnt ʿštrt*, perhaps a combination of the names of two goddesses, Tannit and Astarte. The divine council, the general collectivity of the pantheon, is attested in Phoenician inscriptions from Byblos, Sidon, and Karatepe (ancient Azatiwataya) as it is in Ugaritic literature.

angels. Other tiers of divine authority and capabilities belonged to Yahweh.

Yahweh's dominant place in Israel evolved only gradually. Indeed, Yahweh was not the original god of the group that first went by the name Israel. Rather, El seems to have been the chief deity, an inference based on the name Israel, which contains the element El and not Yahweh. At an early point, Israelite tradition identified El with Yahweh or presupposed this equation. It is for this reason that the Hebrew Bible so rarely distinguishes between El and Yahweh. The priestly treatment of Israel's early religious history in Exodus 6:2–3 identifies the old god El Shadday with Yahweh. In this passage Yahweh appears to Moses: "And God said to Moses, 'I am Yahweh. I appeared to Abraham, to Isaac, and to Jacob, as El Shadday, but by my name Yahweh I did not make myself known to them.'" This passage reflects the memory that Yahweh was unknown to the patriarchs. Rather, they worshiped the god El of Canaan.

Biblical tradition treats language associated with Baal in different ways. While the prophets condemn the god Baal, they use a great deal of language associated with Baal in the Ugaritic corpus. The reasons for this situation are two-fold. On the one hand, the Baal condemned by the prophets is a Phoenician storm-god, probably Baal Shamem. On the other hand, Israel's old Canaanite inheritance included the language and imagery of Baal. For example, biblical material deriding other deities reserves power over the storm for Yahweh (Jeremiah 10:11–16; Amos 4:7).

Biblical Mythic Imagery Related to the Baal Cycle

Common to Baal in Ugaritic literature and Yahweh in Israelite tradition (as well as later Jewish and Christian literature) was a constellation of motifs describing their material and meteorological natures. Ugaritic and biblical literature reflect a basic narrative of the divine warrior-king whose march on the storm-carrying western winds manifests his power to defeat the enemy Sea and its cohorts such as Leviathan, Tannin, and Behemoth, and to enter his divine city and palace in glory. This divine victory symbolizes the refructification of the earth and the cosmos

through the storm-god's life-giving rains. This act of assuming residence is described in different ways, sometimes as the personification of the city or its parts. The victory of the warrior-king is made complete by the defeat of Death, whose terrestrial manifestation is the dry east wind or sirocco. While the Ugaritic and Israelite literatures treat this narrative in highly natural and cosmic terms, the meteorological underpinnings are less forcefully expressed in the later Jewish and Christian literatures, which stress the cosmic and eschatological dimensions of this tradition.

The Hebrew Bible frequently describes Yahweh as storm-god (Psalm 29; Job 38) and divine warrior (Psalms 50, 97, 98; Judges 4–5). The fundamental unity of these two roles is explicitly expressed in Psalm 18 (paralleled in 2 Samuel 22). Psalm 29, 1 Kings 19, 2 Esdras 13:1–4, and 2 Baruch 53 dramatize the meteorological progression underlying the imagery of Yahweh as warrior. All of these passages presuppose the idea of the storm moving eastward from the Mediterranean Sea to the coast. In 1 Kings 19 and 2 Esdras 13:1–4 this storm is personified. The procession of the divine warrior is accompanied by a contingent of lesser divine beings (Habakkuk 3:5). Israelite tradition modified its Canaanite heritage by molding the meteorological march of the divine warrior specifically to the element of Yahweh's southern sanctuary, variously called Sinai, Paran, Edom, and Teman. The notion of Baal riding on a winged war-chariot, implicit in his meteorological entourage, is paralleled in Psalm 77:19 which refers to the wheels in Yahweh's storm theophany, presuming a divine war-chariot. Psalm 18:10 (2 Samuel 22:11) presents Yahweh riding on the western wind surrounded by storm clouds. This image forms the basis for the description of the divine chariot in Ezekiel 1 and 10.

The motif of a chariot-riding storm-god with his divine entourage extends in Israelite tradition to the divine armies of Yahweh riding on chariots with horses (2 Kings 2:11, 6:17). The heavenly armies belonging to the entourage of the warrior Yahweh appear not only in early texts (implied in Judges 5) but frequently also in later texts, such as Joel, 2 Baruch 8, and 2 Enoch 29:3. Whereas the entourage is explicitly connected with Baal in Ugaritic literature, the armies act

independently of Yahweh in biblical and intertestamental literature. The meteorological “signs” witnessed at the ends of the earth in Ugaritic literature and Psalm 65:8 are the thundering of the heavens and earth that announce the imminent arrival of the life-supporting rains. The rains were the sign of human salvation, of divine deliverance from the threat of drought and death. This notion of signs as heralds of divine salvation was extended to indicate the coming of divine judgment (2 Baruch 25; 4 Ezra 4–5, 8–9; 1 Enoch 99; Jubilee 23:13). Early Christian tradition alludes to natural and cosmic signs pointing to the coming of the Christ, also identified as the Son of Man (see, for example, Matthew 24:27–31; Revelation 8:12).

The best-known and oldest divine enemies of Yahweh and Baal are Leviathan, Tannin (the seven-headed beast), Yamm (Sea), and Mot (Death). Yamm appears as a destructive force in the Ugaritic texts, and a proud antagonist to the divine warrior in the biblical record (Job 38; Psalm 89). He is described as a defeated enemy (Psalm 93:3–4), as reduced to praise Yahweh (Psalms 96:11; 98:7), or as further reduced to being one component of creation (Psalm 95:5). Following Baal’s victory over Yamm, his death is proclaimed, an image that appears rarely in biblical material (Revelation 21:1). Leviathan, Baal’s enemy, appears as Yahweh’s opponent and creature in Isaiah 27:1 and elsewhere. In Psalm 74:13–14, both Leviathan and the Tanninim have multiple heads.

Finally, Mot is attested not only in Ugaritic texts, but also in several biblical passages, including Isaiah 25:8, 28:15 and 18, and Jeremiah 9:21. Biblical Mot is personified as a demon like Ugaritic Mot. This background may explain the description of Mot in Jeremiah 9:21, who is said to come up through the window and destroy. The destructive east wind in Israelite tradition appears not only as the manifestation of a divine enemy, but also as a symbol of Yahweh’s judgment, sometimes against not only Israel’s enemies (Isaiah 24:4–13), but also against Israel itself. Mot’s devouring mouth, famous from Ugaritic literature, reappears in later Jewish tradition in the guise of “the mouth of Hell” (2 Baruch 59:10; 1 Enoch 27:2, 54:1–6, 90:26).

Like the motif of the divine foes, the biblical motif of the divine mountain is known from the northwest Semitic tradition, especially Baal’s

mountainous home of Sapan. This mountain is manifest in the identification of Mount Zion as “the recesses of the north” in Psalm 48:2, since the word for “north” is the same as Sapan. Just as Sapan is the site of conflict between Baal and his cosmic enemies, Zion is the place where Yahweh will take up battle (Joel 3). The descriptions of Yahweh’s taking his stand as warrior on top of Mount Zion (Isaiah 31:4; Zechariah 14:4; 2 Esdras 13:35) also echo depictions of the Hittite and Syrian storm-gods standing with each foot on a mountain.

Baal’s palace is envisioned as a heavenly temple, a theme that appears muted in preexilic biblical tradition. Exodus 24:10 and Ezekiel 1:28 allude minimally to architectural features of the heavenly palace. The heavenly temple becomes a major theme in later Jewish literature (2 Baruch 4; *Songs of the Sabbath Sacrifice*; *Testament of Levi* 5; *Wisdom of Solomon* 9:8), including Talmudic tradition (*Babylonian Talmud*, *Pesahim* 54a) and early Christian literature (Hebrews 8:2; Revelation 4:6, 21:2). The mountainous temple home from which Baal utters his voice and rains lavishly upon the earth echoes not only in descriptions of Yahweh roaring from Zion (Joel 3:16; Amos 1:2) or giving forth rains, but also in postexilic discussions of the rebuilding of the temple in Jerusalem. The presence of the temple is thought to guarantee the life-giving rains in Malachi 3:10. This passage reflects the notion that payment of the tithe to the temple would induce Yahweh to open the windows of heaven and pour down crop-producing rains. Similarly, Haggai 1:7–11 attributes drought and scarcity to the failure to rebuild the temple.

The god’s choice of the city was a traditional Israelite theme. The choice was allegorized as a courtship or marriage between the warrior-god and the city, personified as a female. Older reflexes of this theme may be perceived in the feminine title “great one,” which is applied to numerous West Semitic cities and goddesses. Biblical tradition provides the first extant example of narrative based on this theme. Jerusalem is called “great one” as well as *bētûlâ*, “young woman” (who has not given birth). Ezekiel 16:1–14 presents the most explicit version of Yahweh’s courtship of and marriage to Jerusalem; the blood removed in 16:9 may allude to Yahweh’s initial sexual encounters with the fair young maiden. Ezekiel 23:4 records that Samaria and

Jerusalem became wives of Yahweh. The Song of Songs may represent another example of this genre. While few other narratives detailing Yahweh's marriage to Jerusalem are extant, his choice of Jerusalem is, and it may be that the personification of the city was diminished due to its religious associations with goddesses also known as "great." This association became an explicit theme in later Jewish literature. In 4 Ezra 9–10, the mourning woman who speaks with Ezra turns into the shining city of Zion. The angel Uriel then appears to Ezra and explains: "This woman whom you saw, whom you now behold as an established city, is Zion" (4 Ezra 10:44). Similarly, Revelation 21:2 refers to Zion "as a bride adorned for her husband." This bride in Christian tradition is the Church, the bride of Christ. The further biblical transformation of this theme is present in Ezekiel's condemnation of Jerusalem and Samaria as prostitutes unfaithful to their husband, Yahweh (Ezekiel 16 and 23).

Baal's death, descent into the underworld, and return to life evidently provide some background for later biblical concepts of resurrection. Ugaritic texts attest a cult devoted to dead royal ancestors that continued in first-millennium texts. One Phoenician source mentions the request of the dead king to drink with the great god, Hadad (= Baal). This text also manifests the idea that the dead were thought not to dwell in the underworld, but with the high gods, in a sense "in heaven." Resurrection in Israelite tradition is explicit beginning only with Daniel 12:2, sometimes thought to derive from the notion of "national resurrection" in Ezekiel 37 and Isaiah 26:17–19. These three texts respond to contemporaneous needs utilizing old material; resurrection in Daniel 12:2 provides hope to a faithful but otherwise powerful community in the late Seleucid period, and Ezekiel 37 and Isaiah 26:17–19 visualize restoration from the diaspora. These texts presuppose the image of a person's rising from the dead, and this imagery apparently had preexilic roots in Israelite popular religion. Denials of notions or rituals associated with the dead (for example, Psalm 16), appropriation of resurrection imagery (Hosea 6:1–3), and the Israelite continuation of underworld imagery from second-millennium antecedents witnessed in the Ugaritic texts would suggest that cultic customs associated with the

dead, including some idea of resurrection, continued from Ugarit through the rabbinic period, although the legal religious texts from the Bible and early rabbinic sources do not sanction these customs.

Many mythic motifs applied to Yahweh may be traced not only to Canaanite traditions of El and Baal. The language and imagery associated with 'Anat also survives in descriptions of Yahweh's battle exploits. Although 'Anat was not a goddess in Israel, her savage battling in the Ugaritic *Baal Cycle* has been often compared with numerous biblical passages. Yahweh's warfare occasionally recalls this imagery, especially the heaps of corpses (Isaiah 34:3) or skulls (Deuteronomy 32:42; Psalm 110:6). The image of harvest appears in 'Anat's "gleaning" and in some biblical senses of divine war (Joel 3:13; Revelation 14:14–20). Sometimes the aftermath of war is poetically described as a feast (Isaiah 34:6–7 and 49:26), an idea possibly presupposed in the sacrificial language of Deuteronomy 32:43. This feast includes feeding on the flesh of captives (Deuteronomy 32:42); drinking the blood of the victims (Isaiah 49:26; LXX Zechariah 9:15), called "captives" in Deuteronomy 32:42; and wading in the blood of the vanquished (Psalms 58:10 and 68:23). The image of wading in the blood may be related to the theme of the battle as bloody harvest. Because of wine's bloodred color, the image of winepress appears in biblical descriptions of divine war (Isaiah 63:3; Revelation 19:15). Like the grisly description of 'Anat devouring her captives, these biblical passages represent warfare cannibalism on a divine level, which involves total destruction of enemies. The divine consumption of enemies may represent on the divine level what the Moabite and Israelite institution of the ban (*herem*), a war practice of destroying enemies and their property, as an act of religious devotion to the deity who was thought to sponsor, lead, and win the fighting, involves on the human level.

MYTHMAKING IN ANCIENT ISRAEL

Political Mythmaking

Mythic features appeared throughout the history of Israelite literature. Mythic imagery was at

home in various quarters of Israelite society and was mediated through centers of cult inherited from the Canaanite past. The monarchy used mythic language to solidify the ties between the divine and human kings. The parallelism between deity and king is explicit in the royal psalms (Psalms 2, 89:5–37, and 72:8). The political context of West Semitic conflict myth appears in various forms in Psalms 93, 96–100, 103, and 104. A dramatic example of the patron god fighting on behalf of the Davidic king is Psalm 18 (= 2 Samuel 22). Verses 7–19 describe Yahweh in terms associated with Baal's battle, fighting for the king and saving him from destruction. Verses 29–45 depict Yahweh's enabling the monarch to conquer his enemies in battle. Psalm 2, a royal psalm, alludes to the enemies who stand against Yahweh and "his anointed," the king. Psalm 89 likewise parallels the victorious power of Yahweh in verses 5–18 with the divine favor that Yahweh bestows upon the Davidic monarch in verses 19–37. In verse 25 Yahweh extends his power to the monarch in language associated with the god Baal: "I will set his hand on Sea and his right hand on River(s)." Sea and River(s) are both titles of Baal's enemy in the Ugaritic *Baal Cycle*. Psalm 72:8 likewise alludes to Sea and River in describing the expanse of the Davidic territory: "May he have dominion from sea to sea, and from the River to the ends of the earth!" While "the River" historically refers to the Euphrates, it also evokes the mythic pair of "Sea" and "River."

Two titles in the description of the "messianic" figure in Isaiah 9:6 reflect royal appropriation of older divine titles of Yahweh. This figure is called both "warrior-god" and "eternal father." The first title may be traced to the god Baal. The second title is apt for El, who is the divine father par excellence. The juxtaposition of titles associated with two different gods in Ugaritic literature appears elsewhere in the Bible (Deuteronomy 32:8–9). Isaiah 9:6 attributes to the "messianic" figure properties of Yahweh. The application of divine titles to the king accords with the royal notion that the kings of the Davidic dynasty were "sons" of Yahweh. Kings were rarely called "gods/divine beings" (Psalm 45:6; Zechariah 12:8).

Another royal use of mythic material involves the identification of mythic, cosmic enemies

with political, human adversaries. In Isaiah 11:15, the traditions of Sea and River and the seven-headed dragon appear in conflated form. This passage combines both mythic motifs with the ancient tradition of crossing the Red Sea in Egypt; Egypt and River are two enemies to be vanquished by Yahweh. The seven-headed figure is attested in other biblical passages. In Psalm 89:10, the seven-headed figure is the figure of Egypt called Rahab, mentioned in Isaiah 51:9–11 in the company of Tannin (Dragon) and Yamm (Sea). The seven-headed enemy also appears in Revelation 12:3, 13:1, and 17:3, and extra-biblical material, including *Babylonian Talmud*, *Qiddushin* 29b and *Odes of Solomon* 22:5. Yamm appears in late apocalyptic writing as the source of the destructive beasts symbolizing successive empires (Daniel 7:3). This imagery developed from the symbolization of political states hostile to Israel as beasts. Rahab stands for Egypt (Isaiah 30:7; Psalm 87:4), the River for Assyria (Isaiah 8:5–8), Tannin for Babylon (Jeremiah 51:34).

The Priesthood and the Myth of Paradise

Like the monarchy, the priesthood used old mythic narratives and created new ones as well. In Ezekiel 28, a text attributed to a priestly authorship, biblical paradise incorporates three types of descriptions from Ugaritic tradition. The mountainous home of either El, Baal, or the divine council represents the distant background to the paradisiacal mountain of god in Ezekiel 28. The name of Eden means "abundance, luxuriance," and the word describes feasting in the temple. This use of the word might suggest that the temple served, at least in part, as a priestly model for naming and describing paradise. There are many motifs from Ugarit and Mesopotamia resonating in the biblical descriptions of paradise, but many innovations can be found there as well.

Mythic Imagery in Wisdom Circles

The female figure of Wisdom in Proverbs 1–9 represents a new mythic image within wisdom circles. Proverbs 1–9 describes a divine invitation from Wisdom, a figure who has been compared to the Canaanite goddess Asherah. The

symbolic tree of the goddess, called the *'ašērāh*, was a model for the figure of Wisdom. The "tree of life," which recalls the *'ašērāh* tree, appears in Israelite tradition as a metaphorical expression for Wisdom (Proverbs 3:18; Genesis 3:22; Revelation 2:7). Like the symbol of the *'ašērāh*, Wisdom is a female figure, providing life and nurturing. According to Proverbs 3:18, "She is a tree of life to those who lay hold of her; those who hold her fast are made happy"; the Hebrew word, "happy" (*'šr*), puns on the *'ašērāh*. Sirach (or Ecclesiasticus) 1:20 draws on the image of Wisdom as a tree of life: "To fear the Lord is the root of wisdom, and her branches are long life." Sirach 24:12–17 likewise describes Wisdom as various types of trees. Sirach 4:13 and Baruch 4:1, echoing Proverbs 3:18, use the image of holding fast to Wisdom. This image assumes narrative form in Wisdom of Solomon 10.

Diminishing Myth in Israelite Literature

The royal, priestly, and wisdom circles of ancient Israel inherited and reused old mythic motifs known from Ugarit and other West Semitic texts. Mythic material constituted the general stock of the literary tradition. Mythic narratives were likely so well known that allusion to them evoked their entirety. The imagery attested in the *Baal Cycle* so suffuses Israelite narrative, prayer, and other genres that it would seem that mythic narratives and imagery were very popular. These mythic narratives and imagery were not merely the choice form of educated classes such as the royalty, priests, or sages. Rather, these groups likely drew upon this material precisely because it was so well known among the educated and uneducated, rich and poor.

Israelite literature utilized this mythological tradition in different ways. The most common approach to the mythic material was to embrace this material and reorient it in accordance with the social and political needs of the audience. Most of these cases reflect extensions of older mythic material, but Israel also generated new myths, sometimes drawing on older mythic material. These include the biblical Garden of Eden, the female personifications of the city and wisdom, and the tour of heaven provided by an angelic guide. A third approach to mythic mate-

rial was to use mythic material in a reduced manner. This approach may be observed at the outset of Israelite literature. While Ugaritic and biblical literature exhibit many points of contact in describing the storm-god, biblical literature does not show as extensive an immanent depiction of Yahweh as the Ugaritic texts attest for Baal. There is nothing in the extant biblical corpus corresponding to how one Ugaritic text identifies various parts of Baal's physique with his various meteorological characteristics. The depiction of Baal's conflict with Yamm is discernibly more anthropomorphic than any biblical descriptions of Yahweh's conflict against cosmic enemies. There is a corresponding tendency in the image of the heavenly armies belonging to the entourage of the warrior Yahweh. Whereas the entourage is explicitly connected with Baal in Ugaritic literature, the armies act independently of Yahweh in many biblical and later Jewish texts.

Similarly, the love made by the various members of the Ugaritic pantheon is graphic by comparison with the Israelite literature. Indeed, it has been argued that the Hebrew Bible has no example of sex or death in the case of Yahweh compared to the sexual behavior and death of Baal in Ugaritic poetry. Although Ezekiel 16:9 may imply sexual relations between Yahweh and Jerusalem, since it seems to describe the blood of lost virginity, this verse is nonetheless muted compared to Ugaritic examples of divine sex, such as Baal's copulation with a heifer "seventy-seven times, . . . eighty-eight times." Ugaritic mythology describes or presumes theriomorphic deities in a manner largely absent from extant Israelite texts. Divine theriomorphic depictions in Israelite literature are rare and slight by comparison, surviving in a handful of metaphors and titles (Numbers 24:8; and Psalm 132:2, 5, where the title could be translated, "Bull of Jacob"). It would seem that Canaanite literary tradition was highly anthropomorphic and that gradually Israelite literary tradition considerably reduced this anthropomorphism.

Generally, later texts sometimes deny the anthropomorphic characterization of Yahweh. The view that Yahweh had no "form" appears in Deuteronomy 4:12, 15. Similarly, the vision of the divine in Ezekiel 1 stresses the transcendent character of Yahweh by reducing the anthro-

pomorphic presentation of Yahweh, compared to the structurally similar vision in Isaiah 6. This approach to describing God might be viewed as antimythic insofar as it was anthropomorphic. Indeed, it might be argued that the creation of an antimythic deity constituted in some sense a new mythology. Although it was this approach that laid the foundations for the modern negative attitude toward myth, Israelite literature as well as later Jewish and Christian traditions continued to use and transform the old mythic material.

BIBLIOGRAPHY

Texts and Translations

Publication of a large body of "Canaanite" texts can be found in H. DONNER and W. RÖLLIG, *Kanaanäische und aramäische Inschriften*, 3 vols. (1962–1964; 2nd ed. 1966–1969). Transcriptions of the Ugaritic texts cited in this essay can be found in M. DIETRICH, O. LORETZ, and J. SANMARTÍN, *Die keilalphabetischen Texte aus Ugarit einschliesslich der keilalphabetischen Texte ausserhalb Ugarits. Teil 1: Transkription*, *Alter Orient und Altes Testament*, vol. 24. (1976); the *Baal Cycle* is located at 1.1–1.6.

Other extra-biblical works cited in this study may be found in JAMES H. CHARLESWORTH, ed. *The Old Testament Pseudepigrapha*, 2 vols. (1983–1985). The exceptions are the *Talmud*; one text from Qumran called *Shirot 'Olat ha-Shabbat*, published by CAROL NEWSOM in *The Songs of the Sabbath Sacrifice: A Critical Edition* (1985); and Philo of Byblos's *Phoenician History* available in HAROLD W. ATTRIDGE and ROBERT A. ODEN, JR., *Philo of Byblos: The Phoenician History. Introduction, Critical Text, Translation, Notes* (1981). Translations of the Ugaritic texts are available in MICHAEL DAVID COOGAN, *Stories from Ancient Canaan* (1978); JOHN C. L. GIBSON, *Canaanite Myths and Legends* (1956; 2nd ed. 1978); and H. L. GINSBERG, "Ugaritic Myths, Epics, and Legends," in *Ancient Near Eastern Texts Relating to the Old Testament*, edited by JAMES B. PRITCHARD (3rd ed. 1969).

Posing the Problem

ROBERT ACKERMAN, *The Myth and Ritual School* (1990); JONAS C. GREENFIELD, "The Hebrew Bible and Canaanite Literature," in *The Literary Guide to the Bible*, edited by ROBERT ALTER and FRANK KERMODE (1987); DAVID MCGAUGHEY, "Through Myth to Imagina-

tion," *Journal of the American Academy of Religion* 56 (1988); ERICH NEUMANN, *The Origins and History of Consciousness* (1954); ROBERT A. ODEN, JR., *The Bible Without Theology: The Theological Tradition and the Alternatives to It* (1987); and MICHAEL SIMPSON, "Myths and Cosmologies," in vol. 2 of *Civilizations of the Ancient Mediterranean: Greece and Rome*, edited by MICHAEL GRANT and RACHEL KITZINGER (1988).

Mythic Material in Canaan

THE UGARIT STORY OF THE BAAL CYCLE

JOHN C. GIBSON, "The Theology of the Ugaritic Baal Cycle," *Orientalia* 53 (1984); JOHANNES C. DE MOOR, *The Seasonal Pattern in the Ugaritic Myth of Ba'lu According to the Version of Ilmilku* (1971); SIMON PARKER, *The Pre-Biblical Narrative Tradition: Essays on the Ugaritic Poems "Keret" and "Aqhat"* (1989); and MARK S. SMITH, "Interpreting the Baal Cycle," *Ugarit-Forschungen* 18 (1986).

THE POLITICAL VISION OF THE BAAL CYCLE

THEODORE J. LEWIS, *Cults of the Dead in Ancient Israel and Ugarit* (1989); PAUL MOSCA, "Ugarit and Daniel 7: A Missing Link," *Biblica* 67 (1986); MARK S. SMITH, *The Early History of God: Yahweh and the Other Deities in Ancient Israel* (1990); and KLAAS SPRONK, *Beatific Afterlife in Ancient Israel and in the Ancient Near East* (1986).

MYTHIC MATERIAL AMONG ISRAEL'S NEIGHBORS

HAROLD W. ATTRIDGE and ROBERT A. ODEN, *The Syrian Goddess (De Dea Syria) Attributed to Lucian* (1976); CORRINE BONNET, *Studia Phoenicia, VIII: Melqart: Cultes et mythes de l'Héraklès tyrien en Méditerranée* (1988); SAUL M. OLYAN, *Asherah and the Cult of Yahweh in Israel* (1988); DONALD B. REDFORD, "The Sea and the Goddess," in vol. 2 of *Studies in Egyptology Presented to Miriam Lichtheim*, edited by SARAH ISRAELIT-GROLL (1990); and MARK S. SMITH and ELIZABETH M. BLOCH-SMITH, review of Corinne Bonnet, *Studia Phoenicia, VIII: Melqart: Cultes et mythes de l'Héraklès tyrien en Méditerranée*, in *Journal of the American Oriental Society* 110 (1990).

Mythic Material in Israel

EARLY ISRAELITE RELIGION

FRANK M. CROSS, *Canaanite Myth and Hebrew Epic: Essays in the History of the Religion of Israel* (1973), and "The Epic Traditions of Early Israel: Epic Narrative and the Reconstruction of Early Israelite Institutions," in *The Poet and the Historian: Essays*

Myth and Mythmaking in Canaan and Ancient Israel

in *Literary and Historical Biblical Criticism*, edited by RICHARD ELLIOT FRIEDMAN (1983).

BIBLICAL MYTHIC IMAGERY RELATED TO THE BAAL CYCLE

JOHN DAY, *God's Conflict with the Dragon and the Sea: Echoes of a Canaanite Myth in the Old Testament* (1985); ALOYSIUS FITZGERALD, "The Mythological Background for the Presentation of Jerusalem as a Queen and False Worship as Adultery in the OT," *Catholic Biblical Quarterly* 34 (1972), and "BTWLT and BT as Titles for Capital Cities," *Catholic Biblical Quarterly* 37 (1975); JONAS C. GREENFIELD, "Un rite religieux araméen et ses parallèles," *Revue biblique* 80 (1973); LOWELL K. HANDY, "Dissenting Deities or Obedient Angels: Divine Hierarchies in Ugarit and the Bible," *Biblical Research* 35 (1990); VICTOR HUROWITZ, "The Priestly Account of Building the Tabernacle," *Journal of the American Oriental Society* 105 (1985); IRVING JACOBS, "Elements of Near-Eastern Mythology in Rabbinic Aggadah," *Journal of Jewish*

Studies 28 (1977); KATHLEEN S. NASH, "The Palestinian Agricultural Year and the Book of Joel" (Ph. D. diss., Catholic University of America, 1989); and NICHOLAS J. TROMP, *Primitive Conceptions of Death and the Nether World in the Old Testament* (1969).

Mythmaking in Ancient Israel

THE PRIESTHOOD AND THE MYTH OF PARADISE

JON LEVENSON, "The Mountain of Ezekiel's Vision as the Garden of Eden," in *The Eden Narrative*, edited by HOWARD N. WALLACE (1985); JONAS C. GREENFIELD, "A Touch of Eden," in *Orientalia J. Duchesne-Guillemin emerito-oblata*, Acta Iranica, vol. 23, 2nd series vol. 9 (1984); and ALAN MILLARD, "The Etymology of Eden," *Vetus Testamentum* 34 (1984).

DIMINISHING MYTH IN ISRAELITE LITERATURE

MARTHA HIMMELFARB, "From Prophecy to Apocalypse: The Book of the Watchers and Tours of Heaven," in *Jewish Spirituality: From the Bible Through the Middle Ages*, edited by ARTHUR GREEN (1986).

SEE ALSO **Theology, Priests, and Worship in Canaan and Ancient Israel** (Part 8, Vol. III) and **The Literatures of Canaan, Israel, and Phoenicia: An Overview** (Part 9, Vol. IV).

Theology, Priests, and Worship in Canaan and Ancient Israel

KAREL VAN DER TOORN

MANY PRESENTATIONS of Syro-Palestinian religion assume that it consisted of two strands: Canaanite religion, on the one hand, and Israelite religion, on the other. Such a dichotomy should be rejected. The discovery of Ebla (modern Tell Mardikh) reveals that the historical records of Syrian religion reach back to the beginnings of the Middle Bronze Age (about 2300 to 2000 BCE). It would be an anachronism to interpret the evidence from this earlier period on the basis of a scheme designed to account for developments during the Iron Age (about 1200 to 500 BCE). The scheme itself, moreover, is biased; it goes back, ultimately, to a religious polemic. As a reaction to the religious pluralism of the late Iron Age, Israelite preachers labeled all non-Yahwistic practices "Canaanite." A strict and uncompromising Yahwism, itself the outcome of a long process, was retrospectively presented as the original religion of the Israelites. Canaanite religious practices were viewed negatively as being the opposite of Israelite religion. Thus conceived, however, both Canaanite and Israelite religions are figments of the imagination.

Distinctions must be based on historical and topographical considerations. Syro-Palestinian religion in the Middle Bronze Age differed from religion in the Iron Age. Also, the religion of the

Aramaean states in North Syria was not identical with the religion of the Philistines. Yet despite topographical and chronological variations, in many respects there existed a unity of religious culture in ancient Syro-Palestine. Transcending the borders of nationality and language, a fund of concepts and images constituted a "common theology," a term that here refers to the fundamental notions and ideas that determined the predominant worldview of the times. Some of these notions and ideas are discussed in this essay, in combination with a description of the various roles of the temples, the temple personnel, and rites of worship. Finally, Israelite monotheism is discussed and situated in its cultural environment.

GODS

Unlike the widespread modern view that gods belong to a metaphysical world that can be entered only by speculation or revelation, the gods of the ancients were believed to inhabit this world. There was seemingly no need for faith to acknowledge their existence. In the eyes of the ancients the world was full of divine pres-

ences; how else could one explain the manifold phenomena that were beyond the power and influence of humans? The distinction between the meaning of a phenomenon and its explanation was easily blurred; the rolling thunder was the storm-god speaking, as the shining sun was the sun-god watching: the explanation of the event coincided with its meaning. The gods were present in the phenomena of this world, both in the ordinary and the extraordinary. In wells and stones, birth and death, drought and fertility, beauty and terror, gods were at work.

Their presence in this world did not mean, however, that the gods were completely entangled in it. By their very nature they were above the vicissitudes of mere mortals. The paradox of their distant presence found a mythological expression in speculations about their dwelling place. The gods were generally believed to dwell at the fringes of the universe—in the recesses of a mountain, only described from afar, or at the distant horizon, where heaven meets earth. Thus Baal, the patron of Ugarit, had his mythological palace on Mount Zaphon, known today as the Jebel al-Aqra'. His father, El, was said to live "at the source of the two rivers," a much-debated expression that probably refers to the source of the cosmic waters at the ends of the universe. Yahweh, the god of Israel, was believed to have come from the mountainous area in the southeast of Palestine. Designating such locations was an attempt to represent the ambiguity of the gods who participated in this world but were not encapsulated by it.

It would be a mistake to reduce these gods to personifications of natural phenomena, as though they were an allegory of mere earthly realities. The storm-god Hadad, for instance, is always more than a poetic figure of speech for the storm; he is a god, and being a god he belongs to a specific kind of reality. To their worshipers, the reality of the Syro-Palestinian gods was not metaphorical but personal. The gods possessed the characteristics of human actors: they had feelings, were capable of thought, and had a will of their own. Their bodies resembled human bodies, though they were incommensurably larger and sometimes endowed with such special benefits as an extra pair of eyes. By and large, though, the gods were anthropomorphic, both internally and externally.

The fundamental difference between god and humanity was perceived as a difference in power and permanence. The gods surpassed humans in longevity, knowledge, authority, and range of effective influence. In the hierarchy of the universe, therefore, the gods were at the top. They ruled the world. Ordinary mortals were in many ways dependent upon them. The gods granted health, offspring, harvests of plenty, success in battle, and protection against the whims of nature. When provoked to anger, they would withhold these things, leaving humans at the mercy of circumstance. It was therefore essential to stay on good terms with the gods; best was to please, or at the least not disturb, them.

Because of their role in the hierarchy of the universe, the ancient near eastern gods have sometimes been described as basileomorphous, that is, having the characteristics of a king. There is indeed a striking correspondence of terms and images used for the gods, on the one hand, and for the human ruler and his entourage, on the other. The various local pantheons are usually pictured as a divine council or court. The supreme deity presides over "the assembly of the sons of El," as the celestial court was called at Ugarit. Similar expressions are encountered throughout the Syro-Palestinian area. The deity is thought to be seated on a celestial throne of huge dimensions. When, in a vision, the prophet Isaiah beheld Yahweh, he saw him "sitting upon a high and exalted throne; and his fringes filled the temple" (Isaiah 6:1). The Hebrew word for "temple" in this citation denotes in fact the "palace." Its wider use to designate the temple is based on the analogy between temple and palace: the temple in which the god is thought to reside is in fact his earthly palace, conceived as a replica of his royal mansion on high.

The human king and the divine ruler do not only inspire fearful reverence. Both are also the object of love and devotion because they act as the defenders of the disinherited and the down-trodden. Their common concern for the disadvantaged members of human society was condensed in the metaphor of the judge. The people who are the first to benefit from their jurisdiction are, according to a millennial literary theme, the orphan and the widow. The biblical psalms call God the "father of orphans and judge of widows." These humanitarian func-

tions are a projection onto the divine of responsibilities normally incumbent upon the king. According to the Ugaritic *Epic of Keret (Kirta)* it is the king's responsibility to defend the case of the widow and to do justice to the destitute orphan. Because of the protective role of the human ruler, he may be called the "father and mother of his people." The fatherhood and motherhood attributed to the gods are, at least in part if not entirely, based on analogy with royal personalities. (For a further discussion see "The Literatures of Canaan, Ancient Israel, and Phoenicia: An Overview" in Part 9, Vol. IV.)

The love to which the gods were entitled in response to their kindness was expressed in loyalty, in service, and in obedience. It is a religious concept that has been borrowed from profane sources. In Babylonian letters from the early second millennium, servants profess their "love" for their master. Some centuries later, in the correspondence between the pharaoh and his Syro-Palestinian vassals, "love" has become part of the terminology of international relations: the vassal must love the pharaoh, which means that he must demonstrate his political loyalty by his acts. It is in the same sense that Hiram of Tyre is called the "friend" of King David (1 Kings 5:15). Love is an essential requirement, too, of the king-subject relationship. It is in their capacity as suzerains and kings that the gods want their worshipers to "love" them.

Although the metaphor of the king has been extensively used in an attempt to delineate the nature of the gods, Syro-Palestinian religions acknowledged the ultimate transcendence of the divine. This means they acknowledged that no anthropomorphism and basilomorphism could truly represent the innermost truth of the gods. Their fundamentally unfathomable divine essence is expressed in the notion of holiness. The members of the divine assembly are the "holy ones" and the highest god is threefold holy (Isaiah 6:3). The concept of holiness is not easy to grasp; it is associated with purity and luminosity, on the one hand, and force and vitality, on the other. The gods represent such a concentration of light and life as to be both fascinating and forbidding. The ambiguity inherent in the notion of holiness puts it on a par with the concept of taboo; however, the associations of holiness were predominantly positive. Holiness

became dangerous only when brought in contact with unholiness. Since the holiness of the gods cast its glow onto everything in their immediate surroundings, all persons who approached them were required to prepare themselves by certain rites of purification.

PANTHEONS

The oldest known Syro-Palestinian pantheon is that of Ebla (about 2450–2250). Its principal god is Dagan (biblical Dagon), "lord of the land" and "lord of the gods." One of the most popular West Semitic deities, Dagan was a major god in western Mesopotamia as well. In Old Babylonian texts from Mari he is referred to as the "judge of the gods" and the "god of the land." Texts from Emar (about 1300–1200) call him "lord of the cattle" and "lord of the seeds," implying that he was expected to provide fertility. Yet in the same texts Dagan figures as a warrior god: he is "lord of the military camp" and "lord of the quiver." The latter designations are similar to the earlier texts from Mari, where Dagan is said to go at the head of the royal army.

Only second in rank to Dagan in the Eblaite pantheon is Adda, elsewhere known as Addu, Adad, or Hadad. Several Adads were worshiped at Ebla, each related to a different city in the vicinity. Closely associated with the storm, Adad has both fierce and beneficial traits. He is the "thunderer" (Ramman, biblical Rimmon), pictured on plaques and seals as a warrior brandishing a shaft of lightning. In Ugaritic texts he is said to be the son of Dagan. Such was presumably the relationship between the two gods in Ebla as well. In the religion of Ugarit, the god Adda (usually called Baal) gained precedence over Dagan. His ascendancy had apparently not yet been established by the beginning of the Middle Bronze Age.

The category of the "chthonic" deities, that is, gods associated with the earth and the underworld, is represented by at least three figures in Ebla: Rasap, Kamish, and Malik. Rasap, elsewhere known as Rushpan (Mari) or Rashap (Ugarit, Emar), is a god of war and pestilence. In the state cult of Ebla, various local Rasaps were provided with offerings. Kamish (biblical

Chemosh) is probably the same as Kammush, a variation of Nergal according to a Middle Assyrian copy of a god list. Since Nergal is a god of the underworld, Kamish also must have been regarded as such. In the Late Bronze and Iron ages, worship of Kamish was largely limited to the Transjordanian region. Malik—later Milku (Ugarit, Emar), biblical Molech—occurs only as an element in personal names. He, too, was assimilated to Nergal in Mesopotamian texts.

A comparison of the pantheon of Ebla with the pantheons of Ugarit (about 1350–1200) and Emar reveals both continuities and changes. The most significant shift, perhaps, is the reversal in the balance of power between Adad and Dagan. The principal god of Ugarit is Baal Zaphon, lord of the city and patron of the reigning dynasty. His title proclaims him as the “lord of Mount Zaphon”; his characteristics as a storm-god and as a warrior correspond with those of Adad. Ugaritic god lists equate them with one another. Adad is also the “lord of Emar.” Though Ugaritic texts call Dagan the father of Baal, the former has clearly passed on the effective supremacy to the latter. Yet he continues to receive an official cult. Though not mentioned in the Ugaritic myths, Dagan had a temple at Ugarit of the same size as the temple of Baal. (This is discussed further in “Myth and Mythmaking in Canaan and Ancient Israel” above.)

In the religion of Ugarit, especially at the mythological level, the god El plays a role of considerable importance. He is called “father of humanity” and “creator of the earth.” His consort Athirat is the “creatress of the gods.” The gods of the heavenly council, seventy in number, are referred to as the “children” (*bn*) or the “lineage” (*dr*) of El. Though nominally at the top of the pantheon, El behaves as a kindly patriarch who is no longer very active. To a certain degree he resembles Dagan, once foremost among the gods but now relegated to a secondary place.

Compared to Ebla, the Ugaritic pantheon possesses a significant number of goddesses. Most prominent are Ashtarte, the consort of the sea-god; Athirat, the wife of El; and ‘Anat, the “sister” of Baal. Ashtarte is first attested at Mari (about 1750) as the spouse of the river-god Id. In the Ugaritic cycle of Baal myths, Ashtarte persuades Baal not to kill Yamm. Her intervention may either be based upon her close union

with Yamm or have resulted in it. In Emar, where she is sometimes called “Ashtarte of the sea,” she received sacrifices in conjunction with Yamm. In later tradition she is associated with animal husbandry, witness the biblical expression *‘štrt š’n*, “increase of flock,” literally “Ashtarte of flock,” in Deuteronomy.

The second goddess, Athirat, is the spouse of El; this may explain why she is sometimes referred to simply as Elat (the feminine of El, literally “goddess”). As the mother of the gods, she joins the qualities of a mother to those of a lover. As a mother, she intercedes with her husband in support of her son Baal; as a lover, she tries to seduce the storm-god, eventually with the consent of El. The latter feat, described in the Hittite Elkunirsha myth, may be meant to explain why Ashirat was increasingly associated with the storm-god. The association may go back a long way. An Akkadian explanatory god list says that Ashratu, the name under which Athirat was known in Old Babylonian texts, is the wife of Amurru. Since Amurru was considered an aspect of Adad, the implication is that Ashratu is the wife of West Semitic Adad. In fifteenth-century Taanach, Athirat is worshiped as the consort of the storm-god and in the Hebrew Bible Asherah (= Athirat) is commonly regarded as the wife of Baal.

‘Anat, the third goddess, is in many ways similar to the Mesopotamian Ishtar. She is pictured as a young maiden without children, swift as a bird and fierce as a lioness. Though a sister of Baal, she is also his consort. Where other gods take the place of Baal, ‘Anat is sometimes associated with them. Bearing such epithets as “lady of royalty” and “lady of dominion,” ‘Anat is the patroness of the human ruler. According to one theme of the royal ideology, ‘Anat was the wet nurse of the king.

The fall of Ugarit at the beginning of the twelfth century coincides with the transition from the Bronze Age to the Iron Age. In north-eastern Syria, various Aramaean kingdoms came into being. Though their pantheons display local variations, they have a common core. The storm-god Hadad is their main deity. Originally, Hadad and Baal were the same, the latter being a title of the former. In the early Iron Age, however, they developed into separate gods, Baal being the Canaanite storm-god and Hadad being his

Aramaean counterpart. Like Baal, Hadad is known in a variety of local forms. There is evidence of "Hadad of Aleppo," "Hadad of Sikanu," "Hadad of Damascus," and, according to the inscription of the Tell al-Fakhariya statue, Hadad "the Lord of the river Khabur." Other gods mentioned by the Aramaic inscriptions are El, the sun-god Shamash, and Rashap, the martial god associated with pestilence.

Phoenicia, in many ways the heir of Ugarit, comprised the cities of Tyre, Sidon, and Byblos, all situated on the coast. The main goddess of Tyre, Sidon, and Byblos (Gebal, Jubayl) was Ash-tarte. In Tyre and Byblos she is associated with Baal Shamem as the principal god. This Baal Shamem was a storm-god who, in Esarhaddon's treaty with King Baal of Tyre, is associated with Baal Malage and Baal Zaphon; the three of them were conceived as gods of seafaring. The Sidonian Ashtarte is paired with the god Eshmun, the dynastic god of the Sidonian kings, known in later times as a god of healing. (See "The Phoenicians" in Part 5, Vol. II, for a further discussion.)

Farther south, along the Palestinian coast, lies the area where the Philistines settled. According to the biblical texts, the Philistines worshiped Dagon (Dagan) as their primary god. This is confirmed by extrabiblical texts: Eshmunazar of Sidon refers to Dor and Joppa (modern Jaffa) in the Plain of Sharon as "the mighty lands of Dagan." Judging by the recovered figurines, the ancient West Semitic god seems to have been accompanied by a goddess. In view of the biblical evidence (compare 1 Samuel 31:8-10 with 1 Chronicles 10:8-10), she may tentatively be identified as Ashtarte, popular in the coastal regions. Alongside the cult of Dagan, in such cities as Ashdod (1 Samuel 5:2-7) and Gaza (Judges 16:23; 1 Maccabees 10:83-84), the Bible mentions Baal-zebub, the god of Ekron (2 Kings 1:2).

Transjordan was inhabited, according to biblical authors, by Israelites (Bashan, Gilead), Ammonites, and Moabites. The gods of the latter two people are identified by the Bible as "Milcom of the Ammonites" and "Chemosh of the Moabites." Chemosh (Kemosh) is the ancient underworld deity worshiped in Ebla under the name Kamish; Milcom is ultimately connected with Malik, also a god of the netherworld. Ugaritic incantations refer to the god Milku, also

called Rapi'u, who "dwells in Ashtartu and reigns in Hidra'yu." Ashtartu and Hidra'yu are probably identical with biblical Ashtarothe and Edrei, situated in the Bashan. The god Milku of Ashtarothe, who is known on the Phoenician coast as Milkashtart, cannot be separated from Molech (the hebraized form of Malik) and Milcom.

New evidence on the religion of Transjordan has become available in the Balaam-text, discovered in Dayr 'Alla (ancient Succoth). Apart from El, it mentions a group of gods called the Shad-dayin. These deities, too, are related to the underworld. The Ugaritic incantation just referred to mentions "the god Shadday, hunter of Malik." The god Shadday, as his name has been vocalized in the Masoretic text of the Bible, is the eponymous hero of the Shaddayin. Belonging to the retinue of Malik, he is at home in the netherworld. Vocalized as Shedim, the Shad-dayin also occur in the Bible as gods of child sacrifice (Psalm 106:36).

South of Transjordan lies Edom, inhabited by a people that the Israelites regarded as kindred. In matters of religion the affinity is real, since Yahweh, the national god of Judah and Israel, is frequently associated with such Edomite locations as Mount Paran and Mount Seir. In fact, it is the nearly unanimous verdict of historians of Israelite religion that Yahweh has southeast Semitic origins, whether his first worshipers were Kenites, Midianites, or Edomites. The name Yahweh does not occur in Ebla, Ugarit, or Emar. Yahweh cannot be regarded, therefore, as a traditional member of the West Semitic pantheon. Judging by the descriptions of theophany, Yahweh was "a mountain god" (see Kings 20:23) associated with such atmospheric elements as storm and thunder. In the latter respect, he shares certain characteristics with Baal, which may have facilitated the transfer of certain attributes of Baal to Yahweh.

NATIONAL THEOLOGIES

Although a number of Syro-Palestinian deities were worshiped throughout the area, each community had singled out one or two gods on which it focused its worship. These gods were the gods of the city, the tribe, or the nation: their proper

names are frequently followed by a topographical specification. From town to town they may bear identical names, yet they are topographically distinct: to his worshipers the Adad of Aleppo was not the same as the Adad of Damascus. The religious pluralism that is implied in a polytheistic society was counterbalanced, to some degree, by a particularism in the devotion.

The origins of the association between a political community and a particular deity are often lost in the distant past. In most cases there was not a deliberate choice. It is not as though at one point a city or a state decided to select one god above a number of others to be its patron deity. Rather the process was one of independent local cults coming into contact and developing a theological construction to define the status of their gods. In the Greek text of Deuteronomy 32:8, it is said that the bounds of the peoples have been fixed according to the number of the gods (literally "sons of God"). This statement is a retrospective explanation—and as such a justification—of the fact that in the first millennium each nation and each country had its particular god. According to the Israelite theologian, the geographical distribution of gods is not the outcome of historical contingencies but corresponds to a divine plan: as the nations were created and allotted their territories, each of the gods was given his inheritance.

The notion of "inheritance" is a theological concept much in favor in the Bible. Both the people of Israel and their land are designated as the "inheritance of Yahweh." The terminology is also employed outside Israel. Thus the Ugaritic texts mention Mount Zaphon as the "inheritance" of Baal, the place *Hkpt* (Memphis?) as the "inheritance" of the god Kothar (identified with Ptah?), and the netherworld as the inheritance of Mot, god of death. The idea of a divine allotment of territories to the various gods of the pantheon is implied in the reference to Moab as the land of Chemosh in the inscription of King Mesha. At the beginning of the common era the tradition was still known to Philo of Byblos; he wrote that Kronos gave the city of Byblos to Baaltis, Beirut to the god Poseidon, and Egypt to the god Thoth.

Mostly the deity was said to be the "lord" (*ba'al*) or "lady" (*ba'alat*) of the city. These terms were presumably avoided in Israel in or-

der to prevent confusion with the god Baal. Yahweh was referred to as the "king" of Israel. His association with Israel was conceived of as a covenant. A covenant is a solemn engagement taken by two parties and sealed by an oath. The terms of their agreement are often laid down in a treaty. In the Book of Deuteronomy it is the Ten Commandments that could be regarded as the covenantal charter. Biblical scholars have also suggested that the entire book follows the literary pattern of a treaty. One of the reasons why the concept of covenant gained such prominence in Israelite religion is perhaps the historical consciousness that Yahweh had not always been the god of Israel. His worship had competed with the cult of Baal and other gods. One of the strongest proponents of the covenant theology is the "Deuteronomist," a modern label used to describe the author of Deuteronomy. It may be surmised that he championed this covenant theology precisely because of the actual polytheism of his day. Because Yahweh was not automatically considered the god of Israel, his position as national deity had to be based on a theological construction that did not presuppose a perennial solidarity between him and the people of Israel. There had to be a deliberate choice, as implied by the theological theme of election, which was initiated by Yahweh.

Notwithstanding the distinctive way in which Israelite theologians have formulated the relationship between their people and Yahweh, the latter's position as a national deity is not without parallels. A similar position was held by Baal at Ugarit, by Dagan among the Philistines, and by Chemosh among the Moabites. In each case, the reality of other gods was not in dispute; they existed, but they were deemed lesser gods. As a matter of consequence, the national deity turned into a political symbol. Because Yahweh was the god of Israel the battles of Israel were "battles of Yahweh," just as the battles of Moab were the battles of Chemosh. Devotion to the national god became a sign of political allegiance and patriotism.

RELIGION AND POLITICS

Because of the political implications of the official religion, it is not surprising to find the king

playing an important religious role. After the violent death of Queen Athaliah, the Jerusalem priest Jehoiada "made a covenant between Yahweh and the king and the people, that they should be Yahweh's people; and also between the king and the people" (2 Kings 11:17). This three-party covenant illustrates the delicate entwinement of religion and politics. Because the national god was such a powerful symbol, every human king sought to obtain his divine support to legitimate his rule. In his capacity as a ruler, he depended in considerable measure on the goodwill of the clergy. The fortunes of the cult of the national deity, on the other hand, could not prosper without the active support of the human authorities. Palace and temple were in many ways connected. So intricate were their links that it is often difficult to say where religion stops and politics begin and vice versa. (See "Administration of the State in Canaan and Ancient Israel" in Part 4, Vol. I.)

Although it would be incorrect to suppose that ancient Syro-Palestinian religion was a state ideology in disguise, it is true that the official religion was largely coterminous with the state religion. The priests at the royal sanctuaries were a kind of civil servants, ever mindful of the interests of the king. The king had power of appointment and dismissal and could thus exercise enormous influence on the actual religious life. Because of the sway of religion over the populace, the political authorities would try to control and to channel popular devotion. Saul is reported to have taken measures against necromancers and wizards (1 Samuel 28:3). Though not entirely successful, the attempt bears witness to the intervention of the king in the religious practices of his subjects. David's transfer of the ark from Kiriath-jearim to Jerusalem (2 Samuel 6) was as much a religious as a political move: by making the political capital the religious center of the nation, he increased the control over his subjects. A similar motive prompted King Jeroboam to embellish the sanctuaries of Bethel and Dan and to change the date of the autumn festival (1 Kings 12:25-33).

Especially at the initial stage of a royal career, the king's rule needed to be endorsed by the god in order to be accepted by his subjects. Also, in royal inscriptions all over the Syro-Palestinian area, the divine election of the king is a frequent

theme. It is the divine Lady of Byblos who made Yehawmilk king of that city, so he tells us in a building inscription. Zakkur, king of Hamath and Lu'ash, refers to himself as a man from humble extraction whom Baalshamein raised to the position of king. Panammuwa, a first-millennium ruler in the region of modern central south Turkey, claims that he received the scepter out of the hands of Hadad. Similar statements abound in royal apologies. In texts with a stronger mythological flavor, the human king is presented as the son of the patron deity and nursed by goddesses. Thus the legendary King Keret is called "the son of El." In this respect he may be compared with the Judaeen king who was proclaimed the son of Yahweh at the moment of his investiture (Psalms 2:7 and 110:3, "I have begotten you"). The combination of the motifs of royal election and divine paternity in Psalm 89:20-38 indicates that the divinity of the king was not taken literally. His divine parentage was a conventional way of stating his privileged position vis-à-vis the national god.

The close ties between the political rulership and the official religion did at times materialize in the double role of the ruler as king and priest. The king of Byblos was at the same time "priest of the Lady-of-Byblos." At Sidon, the king was "priest of Astarte" and the queen-mother "priestess of Astarte." The custom survived in the Punic colony at Carthage where in bilingual inscriptions the chief magistrate was officially styled the *praefectus sacrorum*, "leader of the religious rites." Outside Phoenicia, in the northern Aramaic-speaking kingdoms, the king could be referred to as the "steward" of the storm-god. Such a combination of political and cultic functions may have occurred in Israel as well, witness the fact that some kings are reported to have mounted the altar to offer sacrifices. If not personally involved as a priest, the king might intervene in religious matters by appointments and decrees.

Because of the involvement of the king in the temple cult, both in its furnishings and in its personnel, the day-to-day proceedings of the sanctuary were bound to be in support of the reigning ruler. In response to the royal devotion, the gods were asked to bless the king and his reign. Intercession for the authorities belonged to the customary duties of the temple servants.

On occasion the support for the king was proclaimed before a larger audience. The annual festival in autumn, baptized the New Year Festival by modern scholarship, included a solemn endorsement of the king by the priests on behalf of the national god. Celebrated as early as the Late Bronze Age in Ugarit and Emar, the autumn festival was designed as a seasonal confirmation of the eminent position of the national god and a means of securing his benevolence for the year to come. At Ugarit the victory of Baal over Mot was celebrated; being the victor, Baal was symbolically reinstalled as king on his throne, presumably by means of a solemn procession. In Israel, the kingship of Yahweh was the central theme. In joyful procession the ark was carried into the temple at the sound of hymns commemorating God's acts of creation and salvation. The ark's reinstallation in the holy of holies was thought to signify a renewal of the divine rule; it is this cultic episode that presumably constitutes the background of the psalms proclaiming Yahweh's kingship.

Though the divine rule was the avowed center of the celebrations, the human king was very much present during the ceremonies. At Ugarit, the king organized the sacrificial banquet; he interceded with the god, and he received several gods (represented by their statues) in his palace. In Israel, the king asserted the legitimacy of his rule by his very role as leader of the procession, by his offerings, and by food distributions to the populace. More explicitly, the divine mandate of the ruler was celebrated in oracles, some of which have been incorporated in the processional hymns. Up to the time of the exile, participants in the festival paid their homage to the authorities; they joined in a solemn blessing in token of their allegiance to the king.

TEMPLES

The oscillation between transcendence and immanence in the Syro-Palestinian conceptions of the divine should not be construed as a form of pantheism. Though the gods were credited with the ability to manifest themselves at whatever place they liked, some spots were hedged off from the surrounding world as particularly fit for

their presence. These spots were the sanctuaries: special sites hallowed by memory and tradition at which the deity was always present—at least potentially.

In the second and first millennia the landscape of Syria and Palestine was dotted with thousands of sanctuaries. Most of them were quite modest: an erected stone or pillar, an altar of earth or stone, frequently near a tree or a well. Oftentimes there was no building, or just a storage room for cultic paraphernalia, comparable to a sacristy. Such local sanctuaries did not take domestic architecture as their model. They were open-air shrines known as "high places" used for seasonal sacrifices and local festivals. In settlements of some size, the open-air sanctuaries could be fitted with one or more rooms for the comfort of participants in offering feasts and the like. There was no divine image present, nor was there a special staff for the daily care of the deity. Both archaeological and literary data indicate that many of these sacred sites were located outside the town.

In the cities, the place of the open-air cult installations was taken by more elaborate structures known as temples. The ordinary designations for a temple in Semitic are "house" and "palace," which indicates that the buildings were conceived as dwelling places for the deity. It is seldom easy to distinguish architecturally between a medium-sized temple and an upper-class house or between a large temple and a palace. The analogy is based on the assumption that the god did indeed have his abode in the temple, not unlike the way a human magnate would live in his residence. In most temples an image, in human shape or in the form of an animal such as the bull or the lion, embodied the divine presence. It was set up in the innermost sanctum of the sanctuary where the atmosphere was generally somber and silent.

It must be assumed that originally each city had not more than one temple as the residence of its god. In the course of time, however, as diplomatic and commercial contacts increased and the population grew to be more heterogeneous, other gods had to be accommodated as well. Their images might be set up in shrines situated within the central temple complex or in independent sanctuaries. A cosmopolitan city like Ugarit had independent temples for El,

Baal, Dagan, and a number of foreign gods. The city of Emar, likewise, had various temples: for Ninurta, Adad, Ninkur, and others. In the Iron Age the situation in the large urban centers of Israel and Judah was hardly different. The temple of Yahweh in Jerusalem contained images of Baal and Asherah, euphemistically referred to as "vessels" (2 Kings 23:4), and it offered hospitality to worshipers of Tammuz and of the sun-god (Ezekiel 8:14-16). It is likely that a cultic pluralism had been common in the city for many generations.

The Syro-Palestinian temple had religious as well as economic, juridical, and political functions. Its role as an economic center follows from its huge possessions. Like the temple of Jerusalem, most Syro-Palestinian temples would have had a stock of silver, gold, precious stones, and valuables, which were referred to as their "treasures." These goods consisted of spoils of war, the income of temple prostitution, votive gifts, temple taxes, and voluntary donations made by king or commoner. Other sources of income were the land holdings of the temple and its livestock. The accumulated capital was used for a variety of purposes. According to Deuteronomy, the temple taxes (the "tithes") were used to succor the Levites, the landless sojourners, the orphans, and the widows (Deuteronomy 14:29, 26:12). Some of the destitute may have dedicated themselves to the service of Yahweh as the only way to survive in times of penury. Widows found a livelihood in the temple compound (Luke 2:36-38). It is possible that the Syro-Palestinian temples, like their Babylonian analogues, made loans free of interest as venture capital to small farmers and merchants, to be returned in the form of "votive gifts." In some respects, the temple functioned as a central bank.

The juridical functions of the temple had their theological basis in the divine endorsement of the moral code and the role of "judge" ascribed to the deity. The sanctuary owed its actual authority primarily to the popular belief in the superior knowledge of the gods. This belief informs the juridical use of the oath and the attendant practice of the ordeal. When a case could not be settled because the facts were uncertain, it had to be brought to the gods. Thus, when someone was suspected of having embezzled the property

of his neighbor, so the Book of the Covenant rules, "he shall come near to God [or: the gods] to solemnly declare that he has not put his hand to his neighbor's goods" (Exodus 22:7). Such a solemn declaration is called an oath. The oath of innocence is also mentioned in Akkadian epistolary texts found at Ugarit. It was normally pronounced in the temple.

The conditional curse of the oath of innocence could be substantiated by the ordeal. In the ordeal, the process of suprarational verification of a solemn statement took the form of a trial. To test the juror he was given some hallowed food or drink. It was believed that these sacred substances would cause irremediable disorders in the system of the one who falsely denied his crime. More dramatic tests were the river ordeal and the ordeal by fire, in which a suspect was intentionally exposed to dangers by water or fire; any harm incurred in the process was believed to be a divine retribution. During the investigation of their case, suspects were held in custody. As a prison, the sanctuary also provided protection from blood revenge. Manslayers could take refuge in the temple until their case was adjudged accidental homicide or murder; this practice is known from both biblical and Ugaritic texts.

The political dimension of the temple follows from the fact that, on the one hand, most Syro-Palestinian gods had a national identity and functioned as national symbols and that, on the other, there were all sorts of connections between temple and palace. The situation at the Israelite temple at Bethel is probably characteristic of many Syro-Palestinian sanctuaries. As Amos uttered a prophecy against the king there, the chief priest attempted to silence him on the grounds that the temple was the king's sanctuary and a royal temple (Amos 7:10-13). A similar situation obtained at the temple of Jerusalem. History has witnessed a number of occasions on which the king used the temple funds for political ends. Apparently, many a king felt free to use the temple treasures for political purposes.

In sum, the preeminent position of the temple in ancient Syro-Palestinian societies reflects the central role of religion in those times. The national religion was a system of symbols and values that provided some form of identity and a means of consolidating the existing sociopoliti-

cal structures. The local sanctuaries and even more so the temples were the places where the ideological constructions that justified and upheld the social patterns of command and submission, of cohesion and self-understanding, received ritual substance and reality. From a theological point of view, the temple was at the intersection point of heaven and earth; from a more mundane perspective, the temple was at the crossroads of the religious, social, economic, juridical, and political life.

PRIESTS

The temple was built to accommodate the deity; it was not primarily designed for devotional purposes. Similar in this respect to the royal palace, it had a staff of human personnel to cater to the needs of its inhabitant. In the Hebrew Bible the temple personnel are often indiscriminately referred to as *kōhănîm*, usually translated as “priests.” The group included the chief priest or temple administrator; his aide, called the “second priest”; the priests responsible for the daily sacrifices; the oracle priests who handled the *urim* and *thummim*; and such low-ranking personnel as the “keeper of the wardrobe,” slaughterers, and doorkeepers. Many of the menial tasks were performed by oblates called the “donated ones” and public slaves. Music was provided by bands of singers organized in guilds. The participation of women was limited to a ministry of unspecified nature “at the door.”

The Hebrew designations of temple personnel have Ugaritic and Phoenician analogues in the *khn̄m*, “priests,” the *rb khn̄m*, “chief of priests,” and the *qdš̄m*, “consecrated ones.” Other temple personnel are called *kmrm* (specific meaning unknown, compare Akkadian *kumru* and Hebrew *kēmārîm*) and *mqm ’lm*, “servant of the gods.” Texts from Emar show a greater variety in terms. They distinguish between the “sacrificer” (*zābiḥu*), the “carrier of the divine statue” (*wābil ilā’i*), the “singer” (*zammāru*), the “diviner” (*bārû*), and such priestesses as the “spouse of the god” (designated with the Sumerogram NIN.DINGIR) and the *maš’artu*, so designated because of her long hair. The term “priestesses” might be misleading in this connection; these women had no sacerdotal

duties: they were regarded as concubines of the god.

Because of the holiness of the gods, those who steadily catered to their needs had to be screened on criteria of purity and physical perfection. The biblical texts insist on the need for cultic officiants to be physically intact and undamaged, and free from profaning influences. No priest “who has a blemish” was allowed to approach the divine presence: blindness, paralysis, a mutilated face, an elongated limb, an injured hand or foot, a hunched back, and skin diseases were among the possible obstacles according to Leviticus 21:16–24. Since Babylonian texts contain similar requirements for temple personnel, it may safely be assumed that such rules were common to the Near East. It has been assumed that their underlying logic was based on the interpretation of disease and disfigurements as divine punishments. It is more likely, however, that the requirement of physical perfection follows from the anthropomorphic vision of the divine. A human ruler would take offense if he were given a blind or a lame animal; so would the gods (Malachi 1:8). Similarly, kings and gods alike demanded physical perfection from their servants.

The demand of sexual purity, valid for priests as well as for visiting lay persons, is probably to be understood within the same frame of reference. Purity rules were a transposition of courtly etiquette into the sphere of the divine. When appearing before the gods one had to have washed, and be properly dressed and groomed. Seminal discharges and menstrual blood entailed a state of impurity because they produced physical uncleanness. As a consequence, women were debarred from most forms of priesthood because they were always potentially impure.

The main capacity in which women were present in the higher echelons of the temple hierarchy was that of wife or concubine of the god. Such an institution is documented for various North Syrian localities like Ebla and Emar; the Phoenician “priestesses” (*khnt*) that are mentioned in a number of texts may have occupied a similar station. Otherwise, women were left to play a largely para-cultic role as prophetesses, mourners, necromancers, or soothsayers. The one biblical text mentioning women as temple servants intimates that their work did not take

them beyond the door of the sanctuary (Exodus 38:8). The possibility of defilement of the temple and the cultic realia through contact with menstruating women is a frequent theme in ancient near eastern literature. Thus the apocryphal *Letter of Jeremiah* illustrates the impotence of the Babylonian idols by the observation that "sacrifices to them may be touched by women in menstruation or at childbirth."

WORSHIP

The actual cult in ancient Syro-Palestine consisted primarily of "the care and feeding of the gods," to use a phrase coined by A. Leo Oppenheim for the Mesopotamian temple ritual. Apart from the administration of the temple and its estate, the tasks of the priests involved the preparation and presentation of the daily meals to the god, the toilette of the deity, and such domestic chores as cleaning. The regular offerings were brought twice a day, once in the morning and once at evening, in analogy with the two meals a day that were customary in the Mediterranean world. Although certain biblical psalms combat the notion of Yahweh being in need of food, such sacrificial terms as "bread" and "soothing odor" imply that in Israel, too, the offerings were originally meant to physically satisfy the god. They were his food. Divine consumption was effected unobtrusively through the deity's viewing and inhaling the substances.

The divine meals varied with the occasion and with local custom. In Israel, they were classified, at some point, as consisting of a lamb for a "burnt offering," flour mingled with oil as a vegetal "gift," and wine for a "libation" (Exodus 29:38-42). These three types of offerings were also known at Ugarit and Iron Age Phoenicia. Sheep, lambs, and cows were considered burnt offerings; less costly, birds were also presented in sacrifice. Vegetal offerings consisted mainly of cereals or fruits, and libations usually of wine, honey, ghee, and milk. The daily offerings were intended for the god alone, though the serving priests were entitled to a fixed portion of the victuals. On occasion, however, the temple was the scene of sacrificial feasts during which the sacrificial animal was eaten by all those invited for the festivities. In Hebrew such an offering was called the *zēbah šelāmîm*.

The *zēbah šelāmîm* was by definition brought by a private person, even though that person might be the king. Guests were invited to the sanctuary to join in a meal of plenty. The background of the custom is the archaic taboo on animal slaughter which required that meat consumption be legitimized by turning the animal into a sacrifice. Once the gods had accepted the sacrifice, the meat was fit for human consumption. The process might seem laborious, but it should be remembered that for most people meat was a rare delicacy. The visit to the sanctuary for a communal feast is to some extent comparable to a visit to an expensive restaurant. The Levitical code distinguishes three motives for organizing such sacrificial feasts: in thanksgiving for a divine favor, in payment of a vow, or in fulfillment of a spontaneous desire (Leviticus 7:11-18). Though the event is called a "sacrifice," it is as much a convivial meal as a rite of worship.

To the occasional sacrificial feasts were added the regular feasts whose rhythm was dictated by the calendar and by the seasons: there was the "annual sacrifice" in autumn at about the time of the harvest of grapes; the sacrifices at the time of plowing and sowing in October and December; and the festivities at the end of the grain harvest in spring. These were agrarian feasts, providing a time of relaxation after the busy periods of hard labor. Besides the annual times of enjoyment during which sacrificial parties were celebrated at the sanctuary, more modest communal repasts were often held on new moon and full moon. The new moon sacrifice was the more important of the two; it can simply be referred to as "the monthly sacrifice."

Worship was not limited to sacrifices; the glorification of the deity with hymns must also be considered part of the temple worship. Extrabiblical examples of texts that were recited at such occasions are rare. It should perhaps be assumed that in places such as Ugarit priests sung the texts of myths instead of psalms of praise. One of the very few Ugaritic religious chants that has been discovered is a mutilated song to Baal:

Baal sits enthroned like the sitting of a mountain
Haddu li[es in wait] like the subterranean
waters,
In the midst of his mountain, the divine Zaphon,
On his [pleasant] mountain of victory.

Human Sacrifice

One of the most ghastly practices the Israelites adopted from the Canaanites, so the Bible intimates, was the burning of babies for Molech. According to the account of Josiah's reform in the second book of Kings, the pious king desecrated Topheth in the Hinnom Valley, so that no one might make his son or daughter pass through the fire for Molech (2 Kings 23:10). Although it has been argued that the expression "to make pass through the fire" refers to a rite of consecration, the texts are best taken at their face value.

Archaeological discoveries at Carthage give reason to believe that child sacrifice was very real indeed. Hundreds of urns containing the charred remains of babies and very small children have been found here. Commemorative stelae leave no doubt about the role of these infants as sacrificial victims. They are referred to in Punic as *mlk* offerings, and it is clear that they were offered up in payment of a vow. According to classical and patristic sources, the practice was brought to North Africa from the Phoenician homeland. By comparison to the Punic evidence for child sacrifice, however, the evidence from the Levant is disappointingly scant. A ninth-century inscription from Tell Halaf (Gozan, Bit-Bakhiani) contains the curse "May he burn his seven sons before Adad, may he lead forth his seven daughters as prostitutes to Ishtar." References to the sacrificial burning of children also occur in penalty clauses of Neo-Assyrian

juridical contracts. Finally, there is the biblical tradition about the Sepharvites, originally from North Syria, who used to "burn their children in the fire to Adrammelech and Anammelech, the gods of Sepharvaim." The relative paucity of the native sources on human sacrifice suggests that it was practiced only "in great crises of danger," as Philo of Byblos is reported to have written.

A point of dispute among scholars is the meaning of the name Molech. When the Israelites are said to have "played the harlot after Molech" (Leviticus 20:5), the term clearly refers to a deity. There is indeed extrabiblical evidence for this god, known as Milku in the Ugaritic texts, and ultimately related to the Ammonite god Milcom. Yet the word *mlk*, probably pronounced *mulk*, occurs as a sacrificial term in the Punic texts. Is it sheer coincidence that its consonants are the same as those of Molech? Some scholars find this hard to believe and suggest that in a number of places biblical Molech refers not to a god but to a sacrifice. When the Judaeans are said to have built high places of Baal to offer up their sons and daughters *lmlk* (Jeremiah 32:35), *mlk* is best understood as a sacrificial term and *l* should be rendered "as," unless one assumes that Baal and Molech are one and the same. The few Old Babylonian texts from Mari where the word *malikum* occurs as a sacrificial term have indeed increased the likelihood of a sacrificial meaning for Hebrew *mlk*, at least in some texts.

Seven lightnings [are in his hand],
Eight storehouses of thunder—
The shaft of lightning he [brandishes.]

*Die keilalphabetischen
Texte aus Ugarit* 1.101:1–4

The correspondence between this liturgical poem and the biblical Psalm 29 is evident from the sevenfold manifestation of the deity in the thunder, referred to as "the voice of Yahweh." Also, Yahweh is glorified as the one "who sits enthroned over the subterranean flood, [who] sits enthroned as king for ever" (Psalm 29:10). The analogies attest to a common tradition of verbal glorification of the deity.

Acts of worship and reverence included a range of physical postures and gestures. The common Hebrew word for worshiping literally

means to "bow down" or to "bend over." People prostrate themselves before the deity; they fall on their face (*qādad*, *nāpal*), they stoop (*kāra*^c), they bow their head (*kāpap*) and put it between their knees (*gāhar*). The lips may kiss the image of the god in token of reverential affection. These various gestures and positions copy the nonverbal communication that was customary in asymmetric social relationships.

Verbal worship should not be reduced to psalms of praise. Gods are also honored by the community's prayer for help. Petitionary prayer and sacrifices of thanksgiving are held out as the proper forms of worship by the Hebrew psalmist:

Offer to God a sacrifice of thanksgiving,
And pay your vows to the Most High;

And call upon me in the day of distress:
I shall deliver you and you will honor me.

Psalm 50:14–15

A Ugaritic example of such a communal “call in distress” is the prayer to Baal to be pronounced “when a mighty one comes to your gates, a warrior to your walls.” The inhabitants of the city are to lift their eyes to Baal and say:

O Baal, drive away the mighty one from our
gates,
the warrior from our walls!
Bulls, O Baal, we will offer up,
Vows, Baal, we will pay!
Male animals, Baal, we will offer up,
hitpu-sacrifices, Baal, we will perform:
A banquet, Baal, we will serve!
To the sanctuary, Baal, we will go up,
The paths to the temple, Baal, we will walk!

*Die keilalphabetischen
Texte aus Ugarit 1.119:28–34*

The Hebrew Bible has preserved the text of a number of prayers of the individual; they are formulary texts presumably recited with the help of a ritual expert in times of need. The editorial superscription of Psalm 102 is a very general description of this type of prayer and the situation in which it was used: “A prayer of one afflicted, when he is faint and pours out his complaint before Yahweh.” A perusal of the relevant texts shows that only a very general distinction is made between possible afflictions: royal prayers excepted, there are prayers of those who are seriously ill, prayers of those who have been unjustly accused, prayers of penitence, and prayers of those tormented by unidentified enemies. Many of them are couched in such vague and general terms, however, that they were probably capable of being employed in a wide range of circumstances.

Outside the Bible hardly any examples of individual laments have been found. A literary instance of private prayer comes from the Ugaritic *Epic of Keret*. As Keret mourns for his dead wife and children, the god El instructs him in a dream to bring offerings to El and Baal and to lift his hands to the sky. The gesture implies the uttering of a prayer. In the Aramaic Zakkur (Zakir) inscription the same expression occurs: “I lifted up my hands to Baalshamein and Baalshamein heard me.” Lifting the arms with the open palms

turned heavenward was a common near eastern prayer gesture. Keret prayed to the gods while standing on the roof of the palace. The roof is mentioned a number of times in the Bible, too, as the platform for an offertory cult. It shows that the individual was free to engage in acts of private devotion in the familiar surroundings of his own house.

Notwithstanding the possibility of domestic prayer, however, many petitions to the deity were uttered in the temple. The visitor was expected to bring an offering, since he was prohibited to appear before the gods empty-handed. In Israelite religion, the customary offerings brought by the individual at the occasion of pleas to the deity were the “guilt offering” (*ʿāšām*) and the “offering of purification” (*ḥaṭṭāʾt*). On each occasion a fee had to be paid to the priests who assisted with the sacrifice (2 Kings 12:16). The Israelite regulations had parallels among the other peoples of the Levant. Two late examples of lists of possible sacrifices with indications of the accompanying payments are the Punic tariffs from Marseilles and Carthage.

One of the reasons people went to the temple was to obtain an oracle. A woman afflicted with barrenness might go to the temple and pray for a son and receive a promise of posterity. The biblical story of Hannah is a perfect illustration. A letter from Mari—a Mesopotamian city having distinct affinities with the West Semitic world—refers to “the sacrifice of a commoner,” which the priests used to find a divine oracle. The priestly oracle, obtained by means of deductive divination, was one way in which the deity might respond to sacrifice and petition; prophecy was another. Both in and outside Israel the temple occasionally had prophets on its payroll; they were expected to inquire with the god on behalf of the worshiper. A third way of receiving a divine reply was the oracular dream. Some temples offered the possibility of spending the night in order to be granted a dream revelation, which was known as the “temple sleep” or “incubation.” (See “Prophecy and Apocalypics in the Ancient Near East” below for further discussion.)

Throughout the Syro-Palestinian area the vow enjoyed great popularity as a means to lend force to petitionary prayer. The desire for offspring was a frequent motive of vows, witness the desig-

nation "son of my vows" in Proverbs 31:2. Vows are usually taken in a temple: Jacob made a solemn promise at Bethel (Genesis 28:20), Hannah went to the sanctuary of Shiloh, and King Keret made his vow in the temples of Athirat of Tyre and Elat of Sidon. However, vows that had been made far away from the temple were none the less valid; when the god had provided a way out of trouble, the vows were to be paid in the sanctuary (see 2 Samuel 15:7–8).

Vows were usually paid in money or offerings. Keret promises a load of silver and gold equivalent to the weight of his future spouse and Jacob pledges that he will pay tithes of all his income (Genesis 28:22). Incidentally, the money in payment of vow could be acquired by means of prostitution. The Deuteronomic ruling that the hire of a harlot and the wages of a "dog" (a male prostitute) were not acceptable in payment of any vow (Deuteronomy 23:19) is a reaction against a practice of the time. Much of the so-called sacred prostitution for which the ancient Near East was reputed by classical authors may go back to such occasional prostitution for the payment of a vow.

ISRAELITE MONOTHEISM

Nineteenth-century liberal protestantism regarded the prophets of Israel as the authors of an ethical monotheism that many believed to be the culmination of humanity's religious evolution. Monotheism is not henotheism. The latter term was coined to designate the practice of regarding the deity invoked or venerated as the one and only god at the moment of worship. Such a transient form of monotheism, changing as it does with the sentiments on which it thrives, should not be confused with the far more fundamental monotheism of the Israelites. Other peoples might have praised a god as the only one, but that was a fleeting devotion; the fact is that they remained polytheists. The monotheism of Israel, on the other hand, was radical: it consisted of the well-considered denial of the existence of gods other than Yahweh. This view still enjoys considerable popularity among scholars.

There is no point in denying the unique nature of Israelite monotheism—unique, that is, in its

day. While monotheism may be qualified as a distinctive trait of Israelite religion, it cannot be isolated from its historical milieu. The monotheism of the Bible is not so completely out of tune with its time that it can only be explained as evidence of divine revelation. It has to be understood against the background of the contemporary exaltation theologies. Each community strove to promote its god to the highest rank of the pantheon. The theology of exaltation, as it is called in scholarly jargon, was one way of achieving such a status for the god of one's choice.

Theologies of exaltation are reflected in various myths and legends. These stories always throw into relief the extraordinary powers of the god that have earned him a justified position at the head of the pantheon. Thus the *Baal Cycle* known from the Ugaritic tablets describes the battles of Baal, who is proven to be superior to Mot, Yamm, and Athtar. Baal was the patron deity of Ugarit, and one can see why his worshipers wanted to extol him above the other gods. Historical tales of victories in battles fought by human protagonists may also be part of the exaltation pattern. If King Mesha has been successful in warfare, as he himself claims, it is because his god Chemosh has no equal among the gods. The Exodus story belongs to the same type of tales. The audience is to understand the incomparable powers of Yahweh for whom the Egyptian gods are no match. He is therefore entitled to the exclusive worship of his people.

Exaltation theologies are also known from Mesopotamia. One of the better known puts Marduk (also called Bēl), the city-god of Babylon, at its center. Most documents of this exaltation theology remain within the limits set by the genre: Marduk wages war against divine enemies and is proclaimed king of the gods; he battles on behalf of Babylon and secures her victory. Yet toward the end of the development of Babylonian religious thought, there is the suggestion that all male deities are simply manifestations of Marduk; this can be regarded as a type of monotheism. Such monotheism should not be interpreted as the answer of a great mind to an intellectual problem. Ancient monotheism is too closely tied with political interests to be considered a dispassionate theological statement. Monotheism is at the heart of a polemic; not so

much against the theological problem of polytheism, but against the pretences of political rivals.

It is no mere coincidence that the anonymous author of Isaiah 40–55, who is considered a major proponent of Israelite monotheism, is known as one of the most vehement critics of idol worship. His monotheism has an anti-Babylonian edge. The unknown prophet lived in exile in Babylonia where he was confronted with the veneration of a host of gods alleged to be superior to Yahweh. Under those circumstances the affirmation that there was no god but Yahweh was as much a theological as a political statement. One of the factors that has favored the elaboration of the monotheistic point of view is the anti-iconic tradition of Israel. Yet by itself the repudiation of images does not necessarily lead to monotheism. The experience of the Babylonian exile in the sixth century seems to have served as a trigger: monotheism was the radical response to a foreign culture that threatened to submerge the identity of the Israelites.

BIBLIOGRAPHY

All quotations are from the Hebrew Bible.

Sources

The principal document on Syro-Palestinian religion is still the Hebrew Bible; the main extrabiblical sources are: DANIEL ARNAUD, *Emar VI. 1–4: Textes sumériens et accadiens* (1986–1987); RAINER DEGEN, WALTER W. MÜLLER, and WOLFGANG RÖLLIG, *Neue Ephemeris für Semitische Epigraphik*, vols. 1–3 (1972–1978); MANFRED DIETRICH, OSWALD LORETZ, and J. SANMARTÍN, *Die keilalphabetischen Texte aus Ugarit einschliesslich der keilalphabetische Texte ausserhalb Ugarits* (1976); HEBERT DONNER and WOLFGANG RÖLLIG, *Kanaanäische und Aramäische Inschriften* (1973); ANDRÉ PARROT and GEORGES DOSSIN, eds., *Archives Royales de Mari* (1950–); and JÖRGEN A. KNUDTZON, *Die El-Amarna-Tafeln*, 2 vols. (1915).

In addition to the publication of the original texts, several translations in modern languages may be used with profit. These include: ANDRÉ CAQUOT and JEAN-MICHEL DE TARRAGON, *Textes Ougaritiques*. Vol. 2, *Textes religieux et rituels* (1989); JOHN C. L. GIBSON, *Textbook of Syrian Semitic Inscriptions*, 3 vols. (1971–1982); OTTO KAISER, ed., *Texte aus der Umwelt des Alten Testaments*. vol. 2, *Religiöse Texte* (1986–

1991); ANDRÉ LEMAIRE, *Inscriptions hébraïques*. Vol. 1, *Les Ostraca* (1977); WILLIAM L. MORAN, *Les Lettres d'El-Amarna* (1987; Eng. ed., 1992); JAMES B. PRITCHARD, ed., *Ancient Near Eastern Texts Relating to the Old Testament* (1950; 3rd ed. with supplement, 1969).

Studies

JONAS C. GREENFIELD, "Ba'al's Throne and Isa. 6:1," *Mélanges bibliques et orientaux en l'honneur de M. Mathias Delcor*, edited by A. CAQUOT et al., (1985); PATRICK D. MILLER, JR., PAUL D. HANSON, and S. DEAN MCBRIDE, eds., *Ancient Israelite Religion: Essays in Honor of Frank Moore Cross* (1987); WILLIAM L. MORAN, "The Ancient Near Eastern Background of the Love of God in Deuteronomy," *Catholic Biblical Quarterly* 25 (1963):77–87; E. THEODORE MULLEN, JR., *The Assembly of the Gods* (1980); MORTON SMITH, "The Common Theology of the Ancient Near East," *Journal of Biblical Literature* 71 (1952):135–147; KAREL VAN DER TOORN, *Sin and Sanction in Israel and Mesopotamia* (1985).

JOHN DAY, *God's Conflict with the Dragon and the Sea* (1985), "Asherah in the Hebrew Bible and Northwest Semitic Literature," *Journal of Biblical Literature* 105 (1986):385–408, and *Molech: A God of Human Sacrifice in the Old Testament* (1989); PELIO FRONZAROLI, ed., *Miscellanea Eblaitica*, vol. 1 (1988) and vol. 2 (1989); OTHMAR KEEL et al., *Monotheismus im Alten Israel und seiner Umwelt* (1980); WILFRED GEORGE LAMBERT, "The Pantheon of Mari," *MARI* 4 (1985):525–539; HANS-PETER MÜLLER, "Religions-geschichtliche Beobachtungen zu den Texten von Ebla," *Zeitschrift des Deutschen Palästina-Vereins* 96 (1980):1–19; SAUL M. OLYAN, *Asherah and the Cult of Yahweh in Israel* (1988); DENNIS PARDEE, "A New Datum for the Meaning of the Divine Name Milkashtart," in *Ascribe to the Lord*, edited by LYLE ESLINGER and GLEN TAYLOR (1988), and *Les Textes paramythologiques de la 24^e campagne* (1988); GIOVANNI PETTINATO, *Culto ufficiale ad Ebla durante il regno di Ibbi-Sipiš* (1979); J. J. M. ROBERTS, *The Earliest Semitic Pantheon* (1972); MARK S. SMITH, *The Early History of God* (1990); JAVIER TEIXIDOR, *Bulletin d'épigraphie sémitique, 1964–1980* (1986); JEFFREY H. TIGAY, *You Shall Have No Other Gods* (1986).

GÖSTA W. AHLSTRÖM, *Royal Administration and National Religion in Ancient Palestine* (1982); WILLIAM W. HALLO, "The Origins of the Sacrificial Cult: New Evidence from Mesopotamia and Israel," in *Ancient Israelite Religion: Essays in Honor of Frank Moore Cross*, edited by PATRICK D. MILLER, JR., PAUL D. HANSON, and S. DEAN MCBRIDE (1987); MENAHEM HARAN, *Temples and Temple-Service in Ancient Israel* (1985); JOHANNES C. DE MOOR, *New Year with Canaanites and*

Israelites (1972); JEAN-MICHEL DE TARRAGON, *Le Culte à Ugarit* (1980); ROLAND DE VAUX, *Les Institutions de l'Ancien Testament*, vol. 1 (3rd ed. 1976) and vol. 2 (2nd ed. 1967); PAOLO XELLA, *I testi rituali di Ugarit* (1981).

RAINER ALBERTZ, *Persönliche Frömmigkeit und offizielle Religion* (1978); HÉLÈNE BÉNICHOU-SAFAR, "Sur l'incinération des enfants aux tophets de Carthage

et de Sousse," *Revue de l'Histoire des Religions* 205 (1988): 57–68; ERHARD S. GERSTENBERGER, *Der bittende Mensch: Bitritual und Klagelied des Einzelnen im Alten Testament* (1980); MAYER I. GRUBER, *Aspects of Nonverbal Communication in the Ancient Near East* (1980); SIMON B. PARKER, "The Vow in Ugaritic and Israelite Narrative Literature," *Ugarit-Forschungen* 11 (1979): 693–700.

SEE ALSO **Palaces and Temples in Canaan and Ancient Israel** (Part 4, Vol. I); **Theologies, Priests, and Worship in Ancient Mesopotamia** (Part 8, Vol. III); and **Myth and Mythmaking in Canaan and Ancient Israel** (Part 8, Vol. III).

Death and the Afterlife in Canaanite and Hebrew Thought

PAOLO XELLA

WHAT IS KNOWN concerning beliefs about death and the afterlife held by those who lived in the geographical area characterized as Canaan (Syro-Palestine) is based on various sources of unequal quantity and worth depending on the periods and cultural phases to which they are attributed. Because of the chronological-geographical dispersion of this documentation, and its particular nature, the emerging picture is neither uniform nor complete.

Although there are written documents, no text has been discovered that shows a direct and theoretical interest in the phenomenon of death and its biological and cultural consequences. This should not be interpreted as meaning that the area's cultures were uninterested in this eschatological subject. Instead, it reflects a pragmatic attitude that, for various historical reasons, was never theorized in the abstract philosophical terms so familiar to modern thought. There was, in fact, a lively interest in the mysteries of existence, as is indicated by a whole series of signs and allusions.

The cultures of the area were essentially polytheistic, anthropocentric ones whose thematic approach was the destiny of humankind, the relationship between persons and deity. The origin of the universe was necessarily expressed

on a conversational or narrative level, not in a speculative or systematic way.

The sources of our knowledge—archaeological and textual data—differ considerably. Archaeology illuminates the outer and formal aspects of the death question, which can more or less be extended to the various successive cultures in the Canaanite area (burial places, treatment of bodies, funereal offerings, so forth), but it goes no further than providing a vague notion of the care that is afforded the dead. The relative uniformity apparent from the archaeological evidence is articulated in a series of regional descriptions from various traditions, often in the process of formation, of an imaginary underworld of unsuspected wealth and animation. There was a deep-seated conviction that a biological death could not exhaust the vital manifestations and destiny of the deceased. However, there are only a few written documents that allow us to determine the particulars of such ideas.

The written documents at our disposal—from the Ebla (modern Tell Mardikh) texts to those from Ugarit, from Phoenician and Hebrew inscriptions to the Hebrew Bible—do not include a treatise on the afterlife or any other text remotely comparable to the Egyptian *Book of the*

Dead. However, they do offer many allusions—for the most part casual, scattered, and disorganized—to the themes of death and afterlife, behind which there is a glimpse of an articulate assemblage of thought that never needed to be expressed coherently or systematically. It is a splendid “mythology of the dead,” which should be read as such without yielding to the temptation to put it into a system of thought that would be a modern scholarly creation.

ARCHAEOLOGICAL EVIDENCE

The archaeological evidence relative to tombs in the preliterate period in Syro-Palestine undoubtedly gives credence to a belief in some kind of continuation of life in a hereafter, but little more than that. From the Neolithic period on, the practice of burying corpses and placing ordinary personal objects near them implies that these might be of use in the new dimension, a diminished and obscure version of the earthly life. Offerings of food and drink give evidence of an ideology confirmed by written texts: the dead needed the living to provide the necessities that were impossible to procure in the afterlife. Therefore, it was important to establish a solidarity between the dead and the living, especially at the level of the nuclear family. This was essential for those who passed on empty-handed, but it was also necessary for the community of the living, over whom the dead could exercise a positive and benevolent influence or maintain a negative and menacing attitude.

Archaeological data clearly show a remarkable cultural solidarity among the people living in this geographical area. The famous skull worship at Jericho is encountered elsewhere—for example at Tell Ramadi (Syria). Scholars believe that this practice did not reflect human sacrifice but rather a particular burial technique; it clearly was a common tradition among Neolithic peoples. The sixth to fourth millennia BCE show a great uniformity in burial rites: individual tombs prevailed for the most part, alongside more infrequent multiple burials and skull deposits. Everywhere there were funereal offerings to the deceased.

TEXTUAL EVIDENCE

It was only with the appearance of written documents that the area's concepts of death and the afterlife began to unfold. In the Late Bronze Age, a good representative sample is found in the alphabetic cuneiform texts of Ras Shamra (ancient Ugarit). Significant Phoenician and Hebrew epigraphic materials, as well as the Hebrew Scriptures, are available for the Iron Age. New information from the Ebla (modern Tell Mardikh) archives of an earlier period is also important because the archaeological and textual data of this culture in inner Syria document a religious phenomenon that was extremely influential in the later history of the area: ancestor worship, in particular, worship of sovereigns and deceased members of the royal family.

Deceased royalty and persons of high status were venerated at Ebla and were at the center of rites of particular complexity. It was a religious ideology that characterized successive cultures in the area and that can be traced back at least to Middle Bronze II (2000–1750) and the time of the Amorite dynasties. This kind of worship seems to be confirmed by the Eblaite documents themselves, especially in some ritual texts related to important ceremonies in honor of dead sovereigns in which the current king and queen offered sacrifices of various kinds. Also emerging from these Eblaite documents is the notion that the deceased king had a status not too different from that of deities. For this reason it may have been thought that, after death, Ebla's sovereigns entered into a mythical collective, retained power, and ruled over the living, who acknowledged this by total devotion to the one in office. These aspects of worship are also found to a degree in the Mari texts where the *kispu*, a rite hinging primarily on a family banquet in honor of the spirits of the ancestors, constituted one of the most important ceremonies to fulfill ancestral obligations (see “Death and the Afterlife in Ancient Mesopotamian Thought” in Part 8, Vol. III). Evidence from Emar (modern Meskene) on the Euphrates shows the continuation of such an ideology and the diffusion of ancestor cults in this culture.

However, it is the Ugaritic documentation of the Late Bronze Age that adds material of the

first order, both for a study of mythology and religious life and for ideas about death and the afterlife in this cultural context. In spite of its small size and relatively limited political importance, the ancient kingdom of Ugarit handed down a combination of widespread beliefs, myths, and rites from early antiquity and can, therefore, be considered representative of the religious situation of the whole geographical area. This evaluation is supported by a whole series of signs that allows us to go back to the Middle Bronze Age and recover motives, persons, and ideas known to the Ugaritic world and compare them with later religious manifestations of Syro-Palestine, including the Hebrew Bible.

With regard to eschatology, Ugaritic documentation shows how various opinions and thoughts about what happens to a person in and after death might have circulated. Allusions, partial descriptions, and references bear witness to a fertile and rich conception of an afterlife. However, the idea of the netherworld appears to have been fluid in nature, continuously developing because it was never crystallized into a doctrine foreign to the structure of a polytheistic religion. It was imagery in ferment, characterized by the use of symbolism; for example, one of its peculiar creations was the figure of Mot, a divine personification of death.

On the basis of both the archaeological evidence and written documents, we can see that Ugaritic society was deeply and consciously interested in the phenomenon of death; death was one of its principal ideological interests. Archaeological data give evidence that the people had widespread familiarity with death and a custom of living alongside the tombs of their ancestors. It is important to emphasize that this was an architectural application of an ideological plan. In fact, funereal architecture at Ras Shamra often reveals that houses were planned to shelter the family of the living as well as to provide adequate space for generations of their dead. The tombs of its sovereigns were found under Ugarit's royal palace. The family tomb, generally placed under the floor, was built at the same time as the house. Visitors could enter from inside the house through corridors and underground shafts, which brought them into a burial cham-

ber that was provided with equipment necessary to the cult. The size of the tomb and its accessories varied according to the economic ability of the family.

This planning of tombs is evidence of the desire of the living to maintain permanent communication with the deceased. It was a relationship of *do ut des* (tit for tat) that guaranteed the deceased the remembrance and care of the survivors (in the form of prayers, memorials, and food offerings) and assured the living the aid of that silent majority that the Ugaritic texts showed to be influential and effective in healing, granting of fertility, and learning about the future through divination.

Available texts show a connection between death and the afterlife, in differing degrees and with various points of view. For example, all the great myths that focus on the vicissitudes of the gods have a death event at the center of the narrative. Usually it is connected to crises that were caused on the cosmic-universal (Baal, Mot, Yamm) or socio-individual (Keret [Kirta], Aqhat) plane. This is the case of Baal's theomachies (battles) against Yamm and Mot, acts on a grand scale that aimed for a correct definition of the relationship between cosmos and chaos, life and death (see "Myth and Mythmaking in Canaan and Ancient Israel" earlier in this volume).

This is seen in the poems of *Keret* and *Aqhat*, which, as always in myth, emphasize the human, more specifically the royal, side of a crisis provoked by death. The central moment in both accounts is the dramatic consequence of the death of a king without descendants, whose destiny is to meet Mot at the end of his own existence since he is unable to be Baal. The *Keret* myth narrates the drama of a father-king deprived of all his progeny. Following the acquisition of the desired heirs, he is often found on the brink of death, and only divine intervention (El and Baal) is able to heal him and restore him as leader of his people and as an intermediary between them and the deities. The lineage theme is also central in the poem of Danil (Danel) and Aqhat. Here it is connected to the mystery of the death of Danil's young son, Aqhat, who is in the prime of his youth. Other mythological fragments (usually described as the *Poem of the Rapiuma*) are perhaps connected to this

event; they seem to describe the youth's fate in the afterlife, where his ancestors await to welcome him into their ranks. (See also "The Literatures of Canaan, Ancient Israel, and Phoenicia" in Part 9, Vol. IV.)

Texts of a ritual nature do not contain such explicit descriptions but make frequent allusions to funeral rites conducted in palace surroundings with the king as leader. Other texts of an oracular character are connected with the afterlife and its residents. Still others involve the dead king of Ugarit and can be directly tied to the Mesopotamian and Mari tradition of the *kispu*, the ritual banquet for those who have died. A beautiful example of such a text is the ritual in honor of the deceased kings, to be recited and performed at the death of the actual king. A role of particular importance was developed in Ugaritic religion for *Ilib*, the defied royal ancestor ("father god" or "god of the fathers"), at the center of the sovereigns' devotion and in first place on divine lists.

The picture is rather clear in its essential elements: a strong ancestor worship, especially to-

ward those of the royal family (sovereigns and their children, famous soldiers); Baal, a polyad god, in the middle of whose deeds stands Mot (Death), larger than life, who thrives on bringing the living back from the afterlife; familiarity of the living with the dead, who, even if not always positive and encouraging, do not seem to play the terrorizing and negative role that elsewhere—for example, in Mesopotamia and Anatolia—has produced an abundance of exorcistic and apotropaic literature (see "Witchcraft, Magic, and Divination in Canaan and Ancient Israel" below).

THE NETHERWORLD

In Ugaritic ideology only the gods are exempt from the dominion of death. The incident of Baal and Mot must be read in this sense. Explicit references to Keret's children, who believed their father was immortal like the deities, inasmuch as he was king, must be understood in

Ritual in Honor of the Deceased Kings of Ugarit

Libretto of the sacrificial meal of the Shadows.
 You summon the Rapiuma of the Netherworld,
 You call the company of Didanu!
 Summon *ulkn* the Rapiu!
 Summon *trmn*, the Rapiu!
 Summon *sdn-w-rdn* . . .
 Summon *tr'llmn* . . .
 They summon the most ancient Rapiuma!
 You summon the Rapiuma of the Netherworld,
 You call the company of Didanu!
 Summon Ammishtamru, the king!
 Summon as well Niqmaddu, the king!
 Weep, o throne of Niqmaddu,
 Let its footstool shed tears!
 In front of it, let the royal table weep,
 let it swallow its tears!
 Desolation, desolation of desolation!
 Be bright, o Shapash,
 be bright, great luminary!
 Let Shapash cry out on high:
 After your lord from the throne,
 after your lord, descend to the Netherworld,

descend to the Netherworld and go down into the
 dust!
 Below is *sdn-w-rdn*,
 below is *tr'llmn*,
 below are the most ancient Rapiuma!
 Below is Ammishtamru, the king,
 below is Niqmaddu, the king, as well!
 Once: do an offering;
 twice: do an offering;
 thrice: do an offering;
 a fourth time: do an offering;
 a fifth time: do an offering;
 a sixth time: do an offering;
 a seventh time: do an offering:
 you will consecrate a bird.
 Hail, hail Ammurapi!
 Hail also to his household!
 Hail, Tharyelli!
 Hail to her household!
 Hail, Ugarit!
 Hail to her gates!

(KTU 1.161)

this context. Even Aqhat's words to the goddess 'Anat, in whom human knowledge of the inevitability of death was clearly manifest, must be read in this sense.

The only description of a death and its results, written with a certain realism, is the killing of the young Aqhat, which was planned by the goddess 'Anat and carried out by her assassin Yatpan during a hunting party:

She took Yatpan, warrior of the Lady ('Anat),
she put him like an eagle on her wristlet,
like a hawk on her glove.
As Aqhat sat down to meat,
the son of Danil to a meal,
above him the eagles hovered,
a flock of hawks looked him down.
Among the eagles 'Anat hovered,
over Aqhat she released him (Yatpan):
he did strike him twice on the crown,
three times on the ear,
he did spill his blood like a murderer,
like a killer on his knees.
His (Aqhat's) breath went forth like wind,
his spirit like spittle,
like smoke from his nose.

(KTU 1.18 IV: 27-37)

An individual possesses an ethereal and volatile vital element (called *npš*). Its separation from the body occurs with the letting of blood and is likened to wind (*rh*), spittle, and smoke that goes forth from the nose of the dying. All this is reminiscent of the *psyche* described in the Homeric poems, and the entire metaphor has endured in the modern expression "to breathe one's last breath." Little was left of the young hunter whose mortal remains, devoured by vultures, were then recovered by his father, Danil, who gave them proper burial. This confirms the great importance of having a family vault, a point of reference for the cultic contacts between the deceased and survivors.

The Aqhat episode is full of eschatological implications and the mortal destiny that awaits any person. While 'Anat, covetous of his bow, first promises Aqhat gold and silver, then absolute immortality—described by the goddess as a life together with the gods—Aqhat displays a realistic and disillusioned attitude. The youth clearly expresses what must have been the com-

monly held notion about human destiny in the culture to which he belonged:

Do not lie, O Virgin,
because to a hero your lying is rubbish!
What does a man get as (his) fate?
What does a man get as (his) final lot?
Glaze will be set near my head,
potash on the top of my skull!
The Death of every man I too shall die,
even I shall certainly die!

(KTU 1.7 VI:34-48)

For a human being there is no alternative to death. Sovereigns must die, even though they seem so similar to the gods. With sorrowful amazement the children of Keret, king of Khabur, said as much at the deathbed of their father: "Ah, father! Should you die like mortal men? Is not Keret the son of El, the child of the Benevolent and Saint?"

If every person must encounter Mot sooner or later and follow him into the hereafter, what really happens to individuals after death? According to the people of ancient Ugarit, life does not totally cease but continues in a kind of concealed survival in a subterranean and decomposed afterlife: the kingdom of the "divine" Mot. However, the Ugaritic materials reveal nothing about a judgment day, where there might be rewards for the righteous and punishment for the wicked. As is reflected in biblical passages, which are greatly indebted to Canaanite ideology, a common, unpleasant, equal, and sad destiny awaits everyone who leaves this world.

The poem of the struggle between Baal and Mot describes a complete itinerary, even though the travelers are not the dead in regular transit but Baal's messengers, bearers of news for Mot. The entrance into the territory is marked by two mountains, and it is necessary to pass through or under that place in order to enter the barren land of the dead. It is a kind of stronghold, variously called an "abode of confinement," "well," or "ruins." In a society that systematically practiced interment, the idea of a lifeless, dusty, putrid afterlife within an immense tomb must have arisen naturally. Going into this territory—as chaotic and perilous as a desert or ocean—Baal's messengers are compared to the dead, "those

who descend into the hereafter." They must not get too close to Mot, who could swallow them in his throat and make them die. As in the case of Baal, death is compared to an engorgement in the throat of Mot, insatiable devourer of human beings. A few biblical expressions (for example, Numbers 16:32–33, Isaiah 5:14, and Proverbs 1:12) contain similar imagery.

There is no contradiction between burial and descent into the hereafter when they are understood as complementary aspects of the same process. Just as Mot's throat is an access to the afterlife, so his abdomen is the subterranean cavity that contains all the dead. Mot has an insatiable appetite and prefers "the masses of the earth," the human beings who satisfy and enrich him.

The myths that center around the figure of the god Baal tell how he was obliged to surrender to Mot at least temporarily, to sink into the underworld, and remain in power over the dead. On one occasion there is a description of a trip to another world that coincides perfectly with the preceding, but it describes the place as a lower "abode of confinement." The expression is ambiguous. Theoretically, it can also be translated "freedom house," a euphemism used to emphasize its contrary meaning. The practice of using euphemisms in referring to the other world is not unknown in the ancient Near East. The term "clean house" is found in Mesopotamia; the Hebrew Bible mentions "eternal home" (Ecclesiastes 12:5) and the "house appointed for all living" (Job 30:23).

Other than these descriptions, we have no indication of how the dead reached their destination in the other world. Certainly of great help to them in this journey was the behavior of the living, in particular an appropriate burial, mourning rites, and customary funereal offerings placed near the tomb (for example, food and drink so the deceased could eat).

FUNERAL RITES

The history of religions indicates that generally the basis of funeral rites is an anxiety about the possible return of the deceased. Mourning and connected rites tend to place the dead firmly in

another dimension. The offerings are intended to be an inducement to prevent a perilous return to the land of the living. At Ugarit this attitude seemed to be tempered by a clear desire to integrate the deceased into a kind of society where the living and the dead coexist in a certain degree of symbiosis. This desire to recover the positive potentialities of the dead for the society of the living, for the good of individuals as well as the community, seems to contrast with the traditional dread of dead persons. This is particularly true in the case of the illustrious dead, such as sovereigns and children of the royal household, who evidently were considered rather powerful even in the afterlife.

In Ugaritic society it was primarily the task of the children to tend to the funeral rites of their parents. The children of King Keret were obliged to perform funereal wailing at the death of their father. This easily explains the absolute importance, for whoever died, of leaving descendants behind. It is a conception widespread throughout the ancient world, according to which an individual survives in his own lineage, the members of which must take care of their parents both in life and especially after death. Symbolic in this sense is the portrait of the "ideal son" that Danil longed for, the one who will be granted by the gods in the person of young Aqhat. He must be:

Someone to set up the stelae of his ancestral god (*Ilib*),

in the sanctuary the memorial emblem (?) of his clan.

Someone to make his smoke (spirit) come out from the earth.

Someone to protect his place (tomb) from the dust.

Someone to shut the mouth of his detractors.

Someone to drive away those who do something bad to him.

Someone to hold his hand in drunkenness.

Someone to support him when he is filled with wine.

Someone to supply his share in the house of Baal

and his portion in the house of El.

Someone to plaster his roof on a muddy day;

Someone to wash his clothes on a slimy day.

(KTU 1.7 I:26–33)

Death was a natural event that society integrated into the culture by means of immediate actions of grief, some of which could become excessive and involve self-mutilation. Although the texts attribute these acts to deities (El and 'Anat, both at the news of Baal's death), they must be similar to those in use among the people in similar circumstances. The head was strewn with ashes or dust, one fell to the ground and wallowed in the dirt, special garments were worn, one shaved portions of the body or caused injury by lacerating the flesh. Filling an important role was the funereal wailing, in which the name of the lost one was invoked and destiny deplored concerning the bitter fate of the living who were left without the deceased. Other information on this subject can be inferred from the poems about Keret, whose children wailed for him, and Aqhat, whose father hurled oaths, tore his clothes, and joined a ritual lament performed by professional mourners.

Concrete evidence of this event is the depiction on the sarcophagus of King Aḥirom (Aḥiram) of Byblos (modern Jubayl), who lived in the twelfth or eleventh century BCE. Death assumes a ritual context in Phoenicia quite similar to that reflected in the Ugaritic texts. Here the dead king sits on a throne and receives funeral offerings from a procession coming toward him. The presence of mourners is conspicuous. From the representation on the lid of the sarcophagus, it seems clear that the one in charge of the ceremony was the king's son, who is depicted by his father's side with a lotus blossom in his hand.

Another interesting reference to funerals is contained in the incident of the discovery of Baal's body by 'Anat and the sun-goddess Shapash. Before the goddess carries Baal's remains up to his sacred mountain, Sapanu, to bury him, she performs an imposing funereal sacrifice that includes the slaughter of various animals. These victims are intended as nourishment for the dead, including Baal himself, who by now counted in this company.

Evidence that an attitude of terror toward death and a desire to be totally free of it did not prevail in Ugaritic culture is confirmed by Mot, who was death personified. At times displaying human behavior, never totally brutal, possessing sensibilities, and quick to justify the cosmic necessity of his actions, Mot more than once finally

gains the sympathy of reader or listener. A victim himself of an inevitable destiny, he must perform his duties as a sacred task, indispensable in the cosmic order, but without cruelty or satisfaction. His situation is essentially similar to that of the dead who populate his kingdom, a sovereign-prisoner role with its apparent privileges, highly prized however by the great gods themselves. His epithets of "divine" and "El's beloved" clearly show that his own irrepressible role was part of the cosmic balance created by El, father of all the gods. The theme of a proper balance between the living and the dead is an undercurrent in the tale of the conflict that set Mot against Baal, who succeeded in returning alive from the hellish interior.

The result of Mot's having found an adversary worthy of him, someone able to come out alive from his throat, is a reduction of his potentially unlimited powers. After the struggle with Baal, even Death must respect rules and regulations: he is prohibited from striking the gods and his ability to devour human beings is limited. All this occurs under the control of Baal, who thus seems to take under his protection the Rapiuma, the deceased, all those who have fallen or will fall before his old and uncompromising adversary.

The struggle between Baal and Mot is the myth of the establishment of proper relations between the living and the dead as well as a description of the not totally negative, passive, or tragic role of those who leave this world. At Ugarit, Baal was called Baal-Rapiu, "Baal the healer-savior," because he had taken the mortal risks of descending into hell. In this guise the god is worshiped as the namesake and leader of the ancestors—especially the rulers, warriors, and great heroes of the past—who are described as Rapiuma ("saviors" or "healers") and venerated as beneficent entities of the people. The Rapiuma intervened on behalf of the living, healing their diseases, providing oracular responses, protecting them on a personal and community level, and fostering fertility. Seen from this angle the dead, or at least this group of deceased persons, do not seem to be menacing and suffering spirits, full of rancor against those who still enjoy the sunlight. Although the two dominions of the living and the dead must remain very distinct, the Rapiuma are honored ancestors in the cult

and in the historic memories of society as well as in nuclear families.

Naturally, not all ancestors in this collective, which by now includes deceased mythical as well as historical rulers, were entrusted with the same power or enjoyed the same esteem. It is very likely that pity might have been commensurate with the importance of the deceased, not only as to their position and deeds in life, but especially for the number and social status of those who did them honor and preserved their memory. On the other hand, there were the dead of minor social status who were remembered perhaps only in the restricted sphere of their own nuclear family (difficult beyond the third or fourth generations). On the other hand, there were the dead of great prestige and popularity, such as members of the royal family and famous warriors, whose earthly fame continued to be recognized in the afterlife. There is nothing, however, to prevent the assumption that if the dead sovereigns were considered almost as divine beings (sometimes their names were marked with the determinative that indicates deity), even family heads in a much more restricted sphere might benefit from prestigious private devotions and offerings, reciprocated with vigilant assistance to their descendants. In ancient Israel certain significant signs show the persistence and popularity of these Canaanite attitudes toward the dead over a long period even in the Yahwist community.

In Syria of the Late Bronze Age, the cult of the Rapiuma represented one of the more specific and characteristic aspects of religious life. This period is marked by ritual customs and veneration of ancestors who were gathered into a mythical community under the leadership of Baal and were perceived as closer and better protectors of humankind than the great deities. The same term that designates this collective of the dead, from a root that etymologically means "to heal" (**rp*'), denotes the inhabitants of the other world in Hebrew and Phoenician. Rather interesting semantic and interpretative developments occurred as adjustments were made in new cultural settings.

By valuing the dead in a positive way and assigning to them an important function for the survival of human society, Ugaritic culture pursued a course that had been developing for

centuries, as seen at Ebla. It was not like the Egyptian method of avoiding anticipated peril connected with death; it was a relatively calm acceptance of biological death that did not foresee an abandonment or disregard of those who leave this world. It was not casually that the god Baal—who by virtue of his tragic experience in the underworld was considered the leader and hero of the Rapiuma—revealed himself as a god completely and always on the side of humanity. Nor was it incidental that YHWH (Yahweh), god of Israel, had to fight him as the most insidious and uncompromising of enemies.

PHOENICIAN INSCRIPTIONS

After the transition from the Bronze to the Iron Age, which was characterized by a general upheaval that overran practically the entire Canaanite area, the Phoenician people on the coast (at Byblos, Tyre, and Sidon) produced a series of interesting inscriptions during the first millennium that revealed elements of their ideas on death and the afterlife. The Phoenicians employed the term *Rephaim*, similar to the one used at Ugarit (*Rapiuma*), to indicate the dead, although in a more general sense. The royal inscriptions of Byblos show a remarkable continuity with the funeral ideology of the Late Bronze Age; whoever dies has to be suitably interred (cremation and burial are both practiced) with adequate funeral offerings. Special treatment was provided the corpse as it was "put into eternity," where it "will rest" forever. The burial place was to be a reminder to the living, a perennial recollection of the one who rested there. To disturb the repose of the dead was a serious and sacrilegious act for which the most awful maledictions against the perpetrator were invoked: he was to remain without descendants and be forgotten by everyone.

On the basis of information derived from western North Africa and from writings from Cyprus, a clear picture can be drawn that easily connects with what was learned from Ras Shamra. It is quite likely that in Phoenician mythology there existed a similar if not identical personality to the Ugaritic Mot. This being was called Muth by Philo of Byblos, who considered it the equiv-

alent of Thanatos and Pluto. There are a few deities of the Phoenician pantheon (like Eshmun, Melqart, or the one the Greeks called Adonis) who disappear into and return from hell, much like the Ugaritic Baal. These figures have roles as mediators between the world of the living and the afterlife and as protagonists in periodic ceremonies of cosmic and social renewal.

HEBREW BELIEFS

The Hebrew Scriptures make numerous references and allusions to the Canaanite religion that in large measure was contemporary with the Phoenician. Ideas about death and the funeral rites practiced in ancient Israelite society did not move very far from Canaanite traditions. Archaeological evidence does not show a significant break during the Iron Age, nor does it affirm a typical Israelite method of burial. Rather, the archaeological evidence confirms the existence of family tombs and the practice of keeping alive the memory of the deceased, and indicates the care taken by survivors for proper burial and in providing the dead with simple funereal equipment.

Hebrew culture had its peculiarities with regard to funerary ideology and would develop its own ideas. However, there was much less rejection of their neighbors' customs than the Hebrew Scriptures would lead us to believe. The Hebrew Scriptures, our principal source, must be used with great caution, for they contain heterogeneous material. In a long historic process during which there were progressive changes, especially on the level of popular religiosity, the Hebrew Scriptures underwent a complex and theologically oriented redaction that substantially reflects the final outcome of this historical process: the affirmation of the worship of YHWH alone. The development of the biblical text was constantly motivated by a polemic against the Canaanite culture and the desire—often ingenuously developed—to demonstrate at any cost the difference in religious behavior between idolatrous neighbors and the chosen people. The Hebrew Bible's explicit condemnations of popular Canaanite rites betray the extent to which the daily life of the faithful of YHWH was permeated by these very traditions.

As the inscriptions found at Kuntillet 'Ajrud (Horvat Teiman in the Negev) now show, these different traditions were able to endure in a peaceful syncretism that sometimes saw other deities worshiped alongside the national god.

All this is particularly important for the relationship between the living and the dead and the role played by YHWH in this environment. The Israelite conceptions in this regard are discussed below, with the customary caution that we are not dealing with an organic whole but a composite reality that is reconstructed without any claim of homogeneity.

Death

When the vital force of divine origin (*rwḥ*) leaves the body, death occurs. It is this vital breath that distinguishes a living creature (*npš ḥym*) from a dead one (*npš mt*). Because there is no clear distinction between body and soul in Hebrew anthropology, death is not conceived as an extension of a human being but as a change of existence, a reduction to the smallest limit of one's vital force and activity.

An inevitable and feared event, death can be accepted and not considered tragic if it arrives at the end of a full life, coming to an older person with descendants who can perpetuate one's memory. A premature death may constitute divine punishment (1 Samuel 25:38ff., 26:10), while a death late in life is better than a person might expect. Once buried according to traditional rites, possibly in the family tomb (1 Kings 13:22; Judges 8:32), one can be "gathered to his people" or "sleep with his ancestors" (Genesis 25:8, 49:29ff.), either in a tomb or in the world of the dead (Genesis 25:8–9).

Although such expressions are generally used in connection with the patriarchs and the kings of Judah and Israel (Genesis 47:30; 2 Samuel 7:12; 1 Kings 11:43), they also reflect a common aspiration to continue, even after death, to be a part of a community and to be placed in an afterlife, called Sheol, with no anticipation of return or contact with the national god. In poetry, as occasionally in prose, the Hebrews used a number of terms and metaphors for the netherworld, among which were *'abaddôn* (place of annihilation), *qeber* (grave), *šaḥat* (pit), *bôr* (cavity), or simply *'ereṣ* (earth).

The Tomb and Funeral Rites

The only funeral for which the Hebrew Bible offers a detailed description is that of Abner in 2 Samuel 3:31–36. Although this may not represent a rigid pattern always precisely followed, it is considered a sufficiently faithful example of Hebrew funeral customs.

Since after death a person exists as a spirit of sorts and one's existence depends solely on the fate of the corpse, it is very important that the body be buried and, above all, the bones preserved; for this reason cremation was very rare. The tomb, often marked by a commemorative monument or stela, was of fundamental importance both for the length of preservation and as a potential reunion place for the deceased and their ancestors. There is a kind of contradiction in Hebrew thought between an abode for the dead in the afterlife, on the one hand, and the dead's continued existence in the tomb, on the other. This seeming contradiction is made even more evident by food offerings and funereal equipment at the tomb.

Burial occurs shortly after death, solitarily in a cave or in a tomb dug out of the rock. Examples include the necropolis at Silwan or the one in the Hinnom Valley. While this was the practice for wealthy persons or those of high status, the fate of the lowly was very different. They were placed in a collective tomb, in the "graves of the common people" (2 Kings 23:6), where it was considered a disgrace for the notables to be buried (Jeremiah 26:23). The necropolis of the kings of Judah was within the old city of David (1 Kings 2:10, but see 2 Chronicles 28:27 for Ahaz). This was an unusual arrangement (see the protests of Ezekiel 43:7ff. for the unclean situation it created), because ordinarily tombs were located outside the city wall.

The dressing of the corpse must have been relatively simple. The body was clothed and burial was accompanied by the placement of symbolic personal objects and offerings. Embalming was not practiced, nor were sarcophagi used. Over time these practices changed.

A period of mourning, usually seven days, was observed. Manifestations of sorrow were similar to those of the Ugaritic people and the Phoenicians. While these were censured by the official religious ideology, they were widely practiced.

They included the sprinkling of ashes or dust, rolling on the ground, tearing of clothes, and dressing in sackcloth. Funereal lamentations and perhaps a memorial for the deceased were carried out in the presence of the corpse along with ritual weeping and, sometimes, singing and dancing. Self-inflicted wounds, the shaving of all or part of one's hair, and the observance of fasting must have been part of the mourning. There was also a funeral banquet (*mrzh*) to which the expressions "mourners' bread" and "cup of consolation" seem to allude (Jeremiah 16:7).

At the basis of these rites was an ambivalent attitude toward a dead person, widespread in many cultures. Death was both an object of love and anxiety, of veneration and fear. Such behavior tends to neutralize possible negative reactions and gain goodwill for oneself and is partly explained by the belief that death brings a great uncleanness that should be avoided and against which one should be purified.

The Dead and Sheol

What was the fate of a person after death? In Hebrew thought the dead (*mtym*) reside in Sheol, where there is a dismal and ghostly existence, a pale and sorry copy of the one on earth. Of obscure etymology, Sheol was conceived as a subterranean, gloomy, and dusty afterlife, in radical contrast to the world of the living.

According to the Hebrew Scriptures, even the most righteous of the deceased suffer not only this sad subexistence but also abandonment by YHWH, a definite and irrevocable separation that segregates them from the people of God. Preoccupied with the community of the living, the God of Israel manifests an extreme aversion toward confronting the dead and the afterlife. The dead are excluded not only from his plans for salvation but also from his remembrance and his compassion.

Although this description reflects the ideological position of the biblical redactors, the reality of the domestic and popular religion must have been quite different. The dead in Hebrew are called *rephaim*, analogous to the Ugaritic and Phoenician words, a term that the Bible also employs to designate ancient and mythical inhabitants of Transjordan. This term, incorrectly

traced back to **rph* ("to be weak"), derives from a root that means "to heal." This etymology clearly shows that the dead, rather than being impotent spirits, are self-possessed numinous beings, endowed with beneficent powers and superior knowledge, who have the ability to communicate with the living.

The biblical text often refers favorably to a cult of the dead. The dead were often explicitly called "the divine" and were considered powerful and benevolent intermediaries by the living. Necromancy, vehemently opposed by orthodox Yahwism, must have been widely practiced professionally. (Consider Samuel's consultation with the medium at Endor, 1 Samuel 28.) Other biblical passages seem to refer to the same kind of practice (for example, Isaiah 8:19; Leviticus 20:27). These data demonstrate the popularity of necromantic practices and the difficulty encountered by the orthodox in an attempt to eradicate it from popular custom.

It seems that the Israelites honored their dead in the same way that their neighbors did. They had a continuous and symbiotic relationship with the dead. They asked them for protection, healing, fertility, and oracular responses in exchange for remembrance and funerary care. Why, then, did the official religious ideology harshly condemn this attitude of devotional piety? Why did YHWH, known as the "god of the living," show an attitude of hostility and long-lasting and irrevocable estrangement toward the deceased? The reasons are of a religio-historical nature. Orthodox, especially post-exilic, Yahwism could not tolerate, theologically or practically, a reverence for the dead that often evolved into a real cult. Potentially, the dead became *de facto* intermediaries, alternatives to YHWH, popular and loved by the common people. Thus, rather than follow the traditional way of integration (as happened to certain Canaanite gods who were transformed into demons or angels, yet creatures subordinate to God), Hebraic monotheism strictly barred any incorporation of these semidivine beings into their official theology.

Orthodox Yahwism sought to contrast the figure of YHWH with that of the Canaanite Baal. The more the latter was seen as a "dead and resurrected" god tied to the afterlife and the deceased, because he himself had experienced the vicissitudes of a descent into hell, the more

the Jewish theological reaction consisted of characterizing YHWH as a living god who intervened among the living but not among the dead. Sheol and its inhabitants were on the margin, in an area of silence and oblivion, yet always subject to his authority. Trust in a god who healed and saved, who customarily took care of the dead, was very dangerous; such a view of YHWH could easily approximate Canaanite beliefs relative to the fortunes and figure of Baal.

This, then, was the official theological position, at least in the late period, but actual practice and the human expectations of the Yahwist faithful were quite different. An important example is the seventh-century inscription of the cantor Uriyahu found at Khirbet al-Kom. His clearly expressed hope was that YHWH could intervene "to save him," as he deserved. This confident and calm attitude contrasts with the desolation and desperation that surrounds the dead and their destiny in the biblical text.

In the Hebrew Scriptures, however, there are clear signs of protest and individual rebellions against the abandonment of those who die; from Job to individual Psalms, the problem of theodicy is even more recognizable. Above all there was rebellion against the separation YHWH imposed on the dead even when they were pious and devoted believers. A cultic and theological retrieval of those who die was needed.

This restitution of at least the Yahwist faithful would finally lead to the first affirmations of resurrection from the dead. A few Hebrew Bible passages are often cited as indicating such hopes (Hosea 6:1–3; Ezekiel 37:1–14; Isaiah 26:19, 53:10–12), but the only unambiguous text is Daniel 12:2ff., together with the clear affirmations of the Maccabean brothers (2 Maccabees chapter 7). It was not until the second century BCE that the idea of a resurrection was recognized as an element of Yahwist faith. This notion was influenced by Hellenistic and Persian religious thought.

The idea of a return of the dead to life came to the Israelites principally from Canaanite (Ugaritic and Phoenician) traditions concerning Baal. Opposed for his pretentious cruelty and obscenity, the ancient Canaanite god provided an unconscious example of compassion toward human beings, one who mercifully shared their lot. This is a historic paradigm that, through a

series of complex developments, left an indelible mark on Judeo-Christian tradition.

Translated from the Italian by G. Faith Richardson

BIBLIOGRAPHY

ROBERT MARTIN-ACHARD, *De la mort à la résurrection dans l'Ancien Testament* (1956); NICHOLAS J. TROMP, *Primitive Conceptions of Death and the Nether-World in the Old Testament* (1969); JACQUES CAUVIN, *Religions néolithiques de Syro-Palestine* (1972); EILEEN F. DE WARD, "Mourning Customs in 1, 2 Samuel," *Journal of Jewish Studies* 23, nos. 1, 2 (1972): 1–27, 145–166; MANFRED DIETRICH, OSWALD LORETZ, and J. SANMARTÍN, *Die keilalphabetischen Texte aus Ugarit* (referred to here as KTU) (1976); KATHLEEN MARY KEN-

YON, *The Bible and Recent Archaeology* (1978); PAOLO XELLA, "Aspekte religiöser Vorstellungen in Syrien nach den Ebla- und Ugarit-Texten," *Ugarit-Forschungen* 15 (1983): 279–290; and *Gli antenati di Dio. Divinità e miti di Canaan* (1982); AKIO TSUKIMOTO, *Untersuchungen zur Totenpflege (kispum) im alten Mesopotamien* (1985); KLAAS SPRONK, *Beatific Afterlife in Israel and in the Ancient Near East* (1986); PATRICK D. MILLER, JR., PAUL D. HANSON, and S. DEAN MCBRIDE, eds., *Ancient Israelite Religion: Essays in Honor of Frank Moore Cross* (1987); PAOLO XELLA, ed., *Archaeologia dell'inferno: L'Aldilà nel mondo antico vicino-orientale e classico* (1987); THOMAS PODELLA, *Şôm-Fasten: Kollektive Trauer um den verborgenen Gott im Alten Testament* (1989); OSWALD LORETZ, *Ugarit und die Bibel: Kanaanäische Götter und Religion im Alten Testament* (1990); KAREL VANDERTOORN, "Funerary Rituals and Beatific Afterlife in Ugaritic Texts and in the Bible," *Bibliotheca Orientalis* 48 (1991): 40–66.

SEE ALSO The "Sea Peoples" and the Philistines of Ancient Palestine (Part 5, Vol. II); Death and the Afterlife in Ancient Egyptian Thought (Part 8, Vol. III); Death and the Afterlife in Ancient Mesopotamian Thought (Part 8, Vol. III); Death and the Afterlife in Hittite Thought (Part 8, Vol. III); and Myth and Mythmaking in Canaan and Ancient Israel (Part 8, Vol. III).

Witchcraft, Magic, and Divination in Canaan and Ancient Israel

JEAN-MICHEL DE TARRAGON

SOOTHSAYING, DIVINATION, MAGIC, and witchcraft were not perceived by Semitic antiquity as they are by our Western societies today; modern anthropology and the system of religious beliefs of the second and first millennia BCE are adversaries in this regard. Rationality, progressively introduced into our minds since the Renaissance and the Enlightenment, has inhibited belief and practice in the domain of the irrational, the unacknowledged, the illicit. The ancient Semitic world had a positive attitude toward these practices, not by tolerance, a modern attitude, but by conviction. The absence of experimental medicine in all ancient societies made legitimate an attitude in the face of illness that we consider superstitious. Just as the notion of the miracle varies from one society to another, so does the idea of magic or witchcraft. The more firmly the belief in the miraculous, in the marvelous, is established, the more magic there will be. In this essay we will not set witchcraft apart, because it is difficult not to attach negative connotations to this form of magic and to perceive it from a hostile perspective that historians must strive to avoid.

DIVINATION

Divination is a common practice in the ancient Near East, and so it is natural to find it in the Phoenician-Canaanite world as well as in the broader context. Our knowledge of divination in general derives mainly from Mesopotamia, Egypt, and the Hittite world. Syria-Palestine has furnished little documentation on this subject in comparison to its mighty and ancient neighbors.

Unlike the Mesopotamians, the Hebrews and the Canaanites of Palestine produced no corpus specifically dedicated to divination. It is necessary to go back to the northern periphery of the Canaanite world, to Ugarit (modern Ras Shamra), to find technical texts on divination. The Hebrew religion had a relative aversion to divinatory practices but was not totally ignorant of them.

The means of divination in the Near East are multiple: by prophetic or priestly oracles, dreams, spirits, lots, astrology, the observation of the entrails of a sacrificial animal, the flight of birds, the patterns of oil on water, and the direction of smoke. In comparison with Mesopo-

tamia, Syria-Palestine documents for us only a reduced selection of these avenues to foretelling future events or discovering hidden knowledge.

At their latest stage, under the influence of monotheism, the biblical editions authorized only divination by lots, which were carried by the High Priest. Such divination was of very limited usage. On the habit worn on his chest, called the ephod, the priest carried a sort of square pocket or pouch, the "breastpiece of judgment," in which were found two lots, one called Urim (*ûrîm*), the other Thummim (*tummîm*; see Exodus 28:15–30 and Leviticus 8:8). We know from the Septuagint (Greek) version of 1 Samuel 14, in which Saul had the lots drawn between his family and the army, that Thummim in this case was the favorable, positive lot (the word *tummîm* comes from the root meaning "to be complete, innocent"):

Saul said, "O God of Israel, why have you not answered your servant today? If this guilt lie in me or in my son Jonathan, O Lord God of Israel, let the lot be Urim; but if it lie in your people Israel, let it be Thummim." Jonathan and Saul were taken, and the people were cleared.

Then Saul said, "Cast lots between me and my son Jonathan; whomever God has the lot select, he must die." The people said to Saul, "This ought not be done!"; but Saul prevailed against the people. When they cast lots between him and Jonathan, Jonathan was taken.

David consulted God by this means, when he ordered his priest Abiathar, "Bring me the ephod!" and posed two questions, to which God responded. Just to speak of the ephod, therefore, was equivalent to referring to the Urim and the Thummim, which were carried there. This is supported by 1 Samuel 2:28 and especially by 14:18–19: "And Saul said to Ahijah, 'Bring hither the Ark [Greek version: the ephod] of God.' . . . and Saul said to the priest, 'Withdraw your hand.'" As we read this, we can imagine the gesture of the priest who plunges his hand into the pouch containing the Urim and the Thummim. From a later period of Hebrew history, the book of Esther makes allusion to the same practice, setting it in Persia, "They cast Pur, that is the lot, before Haman day after day" (Esther 3:7). The name "Purim" was given to that festival, therefore, on the basis of the Babylonian word *pûru*.

Dreams

It is clear that the Hebrews practiced other means of divination. The divine will could be communicated by dreams. God specified it to Aaron and Miriam (Numbers 12:6), "Hear my words: If there is a prophet among you, I the Lord make myself known to him in a vision, I speak with him in a dream." The text seeks to underscore the intimacy that joins Moses and God, since Moses does not need a dream to know God's will. Ordinary prophecy could always benefit from revelation by a dream. For example, let us recall the dream of Jacob at Bethel (Genesis 28:10–19), the dreams that Joseph interpreted for himself, for his companions in captivity, and for Pharaoh (Genesis 37:5–10; 40; and 41), that of Abimelech (Genesis 20:3), that of Jacob at the house of Laban (Genesis 31:11–12), and of Solomon at Gibeon (1 Kings 3:5–15). Examined in its context, each of these oneiric experiences is different; we cannot reduce them to a type. We may also note that the condemnations of Jeremiah (29:8), "And do not listen to the dreams which they [prophets and diviners] dream," or of Deuteronomy (13:1), "If a prophet arises among you, or a dreamer of dreams, and gives you a sign or a wonder," aimed not at the dream as a means of knowledge, but against its usage gone astray. Divination is expressed in the Hebrew vocabulary by other words than those designating prohibited activities, for example, of magicians. Often it is simply a matter of "finding" or "interrogating" God; the divinatory practice is thus close to a legitimate oracle. The specific terms for divination or omens (for example of Laban in Genesis 30:27, or of Joseph in Genesis 44:15) are common to West Semitic languages, and parallels exist in the neighboring civilizations. (See "Prophecy and Apocalypics in the Ancient Near East" in Part 8, Vol. III.)

Balaam

The character Balaam (Numbers 22–24) is presented in the Bible in different aspects, some negative (he curses) and others positive (he blesses). In the end the two tendencies are harmonized: the malediction is transformed into a benediction, against the will of the diviner (Deuteronomy 23:5). This diversity is an echo of the complexity of the process of transmission of the

traditions concerning Balaam. He is perceived as a diviner on the basis of Numbers 22:7, "(They) departed with media of divination (*qesāmîm*, often incorrectly translated 'fees') in their hand." Let us note that, theologically, these three biblical chapters also attribute the characteristics of a prophet to Balaam.

The exceptional discovery in 1967, at Tell Deir 'Alla (on the east bank of the Jordan), of texts mentioning Balaam gives a background to the biblical character. These texts, written in ink on a plaster wall, are unfortunately difficult to decipher: they are broken, incomplete, and the ink has faded. The language is a local dialect, close to Ammonite, but with aramaizing traits, and the texts are dated anywhere from 600 to 800 BCE. The archaeological setting of this find comes from a human context that one can define as Canaanite, culturally very close to the Israelites who occupied Gilead, and likely to be unconsciously polytheistic at that early period.

The inscription describes Balaam, son of Beor, as a seer: "(The) book of Balaam, son of Beor, a man who saw the gods" (line 1). In effect, Balaam of Deir 'Alla was a sort of prophet who once had intervened to prevent or avert, it seems, a natural catastrophe brought on by disorder in the world of the gods. His oracular visions permitted the understanding that disorder was perceptible especially in the abnormal behavior of animals, here birds. The fragmentary condition of the inscription, whose end is missing, does not permit us to know how affairs returned to normal, and if Balaam played an active role (as a magician?) in this restoration, or if he only transmitted the decisions of the gods without intervening. Sacrifices may have taken place to affirm the reestablishment of the natural laws. Among the testimony of these strange texts is the assertion that the threat of natural calamities was transcribed, in religious language, as an echo of disorder among the gods and goddesses. It is clear that the progressive establishment of monotheism in biblical religion would come to disturb this idea, but in the eighth century it was still alive.

Other Extra-Biblical Evidence

Another ancient extra-biblical text, also dated to around 800, is the stela of Zakkur (Zakir), the Aramaean king of Hamath. Although geographi-

cally remote from Palestine, this text describes a practice that is close to how David acted on the eve of a battle (see above). Zakkur expressed himself as follows (lines 11–13), "I lifted up my hands to Baalshamayn, and Baalshamayn answered me, and Baalshamayn (spoke) to me through seers and messengers; and Baalshamayn (said to me): 'Fear not . . .'" (translation by J. C. L. Gibson).

The interrogation of the gods is illustrated, for a somewhat earlier period, by a little tablet, rather incomplete, from Ugarit. The hero, Ditanu, interrogated (same vocabulary as in Numbers 27:21) the Master of the Great Gods (El?) concerning the future birth of an infant. What we can determine of the rest suggests a magic ritual.

Teraphim

More on the edge of the illicit, in the eyes of the biblical editors, is the use of the teraphim. These are cult objects, sometimes idols, sometimes divinatory instruments. The story of Michal is vivid: she supported the escape of her husband, David, by placing a teraphim in his bed as a dummy to deceive his pursuers. In 1 Samuel 19:13, "Michal took an image [literally a teraphim] and laid it on the bed and put a pillow of goats' hair at its head, and covered it with the clothes." Michal reported that David was sick and in bed. It is not impossible that originally the story had another meaning: the teraphim, a propitiatory domestic idol, would really have been placed beside the sick David in a magical practice of healing by substitution, known in Mesopotamia, in which the statuettes took on themselves the evil spirit of the illness. The later editors would have been scandalized by that practice. The word teraphim would thus be a corruption of the root "to heal," which produced, moreover, the word Rephaim, applied to the denizens of the netherworld.

In Genesis 31:19–35, it is Rachel who stole the teraphim of her father Laban. In Judges 17:5, the Ephraimite Micah makes "an ephod and teraphim." According to 18:17–20, we determine that the teraphim were not either the ephod or the idol properly speaking. The brevity of the biblical texts on such sensitive subjects gives us no assurance regarding the precise nature of these objects. The clearest association of the tera-

phim with divination appears in Ezekiel 21:21, "For the king of Babylon stands at the parting of the way, at the head of the two ways, to use divination; he shakes the arrows, he consults the teraphim, he looks at the liver." We note in passing the allusion to divination by arrows (belomancy), which was known in Mesopotamia, but hardly in Syria-Palestine.

NECROMANCY

The tolerable limit of divination, in the biblical perspective, is the interrogation of the spirits of the dead, or necromancy. This is illustrated by the narrative of the pythoness ("witch") of Endor (1 Samuel 28:3–25). This episode, which took place during the Philistine wars waged by King Saul, is the only explicit case of necromancy found in the Bible. It has no strict parallel in the Phoenician-Canaanite documents. If the precise historicity of the episode is contested by certain exegetes who see in it editorial manipulation which clearly took place later than the theoretical date of the event, that has little importance for our study. We consider the story as highly informative of beliefs, be they those of the contemporaries of Saul or those of the later editors.

Saul turned to necromancy as a last resort, vexed by not having obtained a response in an orthodox divinatory consultation, "by dreams, or by the Urim, or by prophets" (28:6). This type of consultation was also found in 1 Samuel 14:41. The dynamic of the recitation implies that Saul considered necromancy to render the same service as ordinary divination. Saul looked for a medium (*'ēšet ba'ālat-ōb*, literally, a "woman handler of ghosts"). The Bible utilized this rare word (*ōb*) in a derivative sense to designate the spirits of the dead insofar as they were susceptible to being invoked by a spiritualist. The king requested that the woman predict the future for him through the spirit of the dead, and Saul's exceptional action is heavy in meaning when one realizes that the dead consulted was none other than the prophet Samuel! Strangely, too, the phantom or specter of Samuel was called a "god" in verse 13 (literally, "gods," *'ēlōhîm*, a word commonly given in the plural when refer-

ring to the Hebrew god). However, in a certain sense, we are not far from the strict Yahwist religion, since Samuel was its advocate. Ultimately Saul returned by this route to look for the answer to his question from the real God, or at least from God's representative, Samuel. Therefore the action of the king is not sorcery and did not address itself to false gods or demons. The proof of this is that his pursuit was efficacious: the spirit of Samuel appeared to the woman diviner, and specifically engaged in the dialogue with Saul. In the name of God, the dead prophet announced to him his next military defeat and his death. Saul obtained what he was seeking: an answer that neither the lots, nor the dreams, nor the ordinary prophets were able to give him. In this sense, the condemnation of 1 Chronicles 10:13 is unjust: "Saul died . . . (because) he consulted a ghost for advice." The tone of Chronicles is moralizing; while the necromancy remains condemnable, nevertheless, we credit Saul with having been severe—"he has cut off (banned) the mediums and the wizards from the land" (1 Samuel 28:9).

This last expression groups two terms, of which the second ("wizards," literally "experts") is always tied to necromancy. The Bible willingly uses these two terms to designate necromancy, a distinctive form of divination that is damnable. This condemnation is often reiterated; for example, in Deuteronomy 18:10–11, "There shall not be found among you any one who burns his son or his daughter as an offering, any one who practices divination, a soothsayer, or an augur, or a sorcerer, or a charmer, or a medium, or a wizard, or a necromancer." This is a stereotypical formula that associates a mix of diverse divinatory, magical, and ritual practices and techniques. Here we are at an evolved stage of the theology of Israel.

The belief that the spirits of the dead can communicate with the living is an element of practically all the religions of antiquity. Beyond what is told in 1 Samuel 28, there is one other example in Isaiah 29:4. The prophet predicts misfortune for Jerusalem, and compares its future situation to that of a dead man whose weakened voice always makes itself heard: "Then deep from the earth you shall speak, from low in the dust your words shall come; your voice shall come from the ground like the voice of a ghost, and your

speech shall whisper out of the dust.” Here the Hebrew word translated as “ghost” (*’ôb*) is the same as in the incident of King Saul invoking the manes of Samuel. For the prophet Isaiah, there is no doubt that the dead “whisper,” whether they are actually invoked or not.

Isaiah 28:7–22 is a diatribe against false prophets that probably aims at the activity of diviners and more precisely of necromancers among these cultic prophets. The biblical narrative stands as if it were expurgated by tradition, but with necromancy remaining in the background. One recognizes in the gibberish of verse 10 (best kept untranslated), “*šaw lāšāw qaw lāqāw . . .*,” the cryptic oracle mouthed by a necromancer in an intoxicated state (see verse 7), probably invoking the chthonic deities that are given in ironic sense as “Death,” “Sheol,” “Lies,” and “Falsehood” (verse 15). (Note, in the same sense, Isaiah 8:19.)

In an oracle against Egypt, Isaiah mentions all together “the idols and the sorcerers, and the mediums and the wizards” (19:3b). The grouping is polemical; the idols taint the enchanters and diviners with illegitimacy. The allusion to divination by the spirits of the dead is attributed to the Egyptians. This is probably abuse on the part of the prophet. We know that in reality the Egyptians practiced little necromancy; they were renowned for magic (see below regarding Moses before Pharaoh), but not for necromancy. (See also the chapter “Witchcraft, Magic, and Divination in Ancient Egypt” above.)

The sentence for necromancy was death by stoning, according to Leviticus 20:27. For the historian, it is difficult to know how often such penalties were carried out in ancient Israel; the texts that mention them present a somewhat exemplary view of the official religion. The second book of Kings 21:6 harshly condemns King Manasseh because “he burned his son as an offering, and practiced soothsaying and augury, and dealt with mediums and with wizards. He did much evil in the sight of the Lord.” Yet the description is manifestly formulaic and is not likely true to reality, for Manasseh is held guilty of every potential religious aberration, all in one statement.

The ultimate reason for rejecting divination, a practice associated with idolatry and magic that seems very natural to ancient religions, is

explained in Leviticus 20:6, “If a person turns to mediums and wizards, playing the harlot after them, I will set my face against that person.” Since prostitution is elsewhere in the Bible repeatedly equated with idolatry and the worship of multiple gods, we may infer that monotheism was the root cause for rejecting divination. Historically, however, monotheism took centuries to become established in the religious conscience of Israel. We can nevertheless suppose that during the centuries of its maturation, divination continued to be practiced, hence the repeated condemnations registered in the Bible.

MAGIC

In distress, or to satisfy a violent desire, human beings could be tempted to force destiny or nature. In antiquity, the recourse to magic is charted within the continuum of religious practice; there is no rigid boundary between the two. We tend to speak of magic when a religious ideology attempts to control, if not force, the divinity, or at least the world of nature. In magic, it is that domination which fascinates and causes fear. It could work especially by invoking the name of a god, whence no doubt comes the taboo late in Israel’s history against pronouncing the divine name, and the falsification in the Bible of the names of the Canaanite gods (for example, Baal transformed into Boshet).

Moses the Miracle Worker

It is sometimes difficult to distinguish between miraculous powers and magic acts. So it is with the activities of Moses in the court of the pharaoh. The story of the ten plagues against Egypt (Exodus 7–12) culminated in the Passover narrative. We must not forget this theological context, which explains in part the editorial process and which makes it impossible for the historian to confirm the marvels accomplished by Moses. According to Exodus 4:1–9, God granted Moses these powers with the express purpose of legitimating the word of the prophet. The marvels accomplished by Moses were not magic in the pejorative sense, because they were accomplished in conformity with the orders of God, nor were they an attempt to dominate on the

part of Moses; on the contrary, they were a mark of obedience. What causes us to relate them to magic is the parallel made in Exodus with the actions of the “wise men and sorcerers . . . , the magicians of Egypt,” who “did the same by their secret arts” (Exodus 7:10–11 and parallels). The Hebrew word translated as “sorcerers” (*mēkaššēpîm*) exists also in Akkadian, where it has the same rather imprecise meaning, and more rarely in Ugaritic. In contrast, “magicians” (*ḥartummîm*) is the translation for a word of Egyptian origin, the same as that which designates the “secret arts.” Perhaps the foreign derivation of these words is an indication that professional magic was not very common in the Syro-Palestinian world. We must doubtless reconstruct the inevitable magical activities, such as the recourse to diviners and prophets, “men of the gods,” and priests (Canaanite first, Israelite later).

Apart from the great figure of Moses, activities that we readily consider to be magic are attested in narratives that are strongly tinged with legend, such as the prosperity of Jacob at the home of his father-in-law Laban (Genesis 30:32–43), an example of imitative magic, or Balaam (see above), presented as a diviner whose word had a magic efficacy (Numbers 22–24). The marvelous, in the latter case, is also present in the female donkey that speaks. The story nevertheless remains orthodox, because God is explicitly at the origin of all these phenomena.

Miracles and Magic

Miraculous and magic actions being similar, we can again find several more or less developed cases in the Bible. We just mentioned the wonders of Moses, which he accomplished with the help of his rod. The rod can appear to us as an object endowed with magic power, although the biblical editors did not perceive it thus. Joshua, at the capture of the city of ‘Ai (modern al-Tell), stretched his arm toward his objective, on God’s order, and his troops seized it easily (Joshua 8:18). Comparable are the rod of the angel who visited Gideon (Judges 6:21), and perhaps the wool fleece (Judges 6:36–40). The prophet Elijah sometimes acted like a magician. We can recall his great contest at Mount Carmel with the prophets of Baal (1 Kings 18:20 and follow-

ing), with the fire of heaven coming to devour the burnt offering, or the role played by a cloak in transmitting his power to Elisha (1 Kings 19:19). There is also the episode of Elijah and the widow’s jar of flour and jug of oil, which did not run out (1 Kings 17:14–15), a miracle repeated by Elisha (2 Kings 4:1–7). Twice Elijah caused the fire of heaven to fall on the soldiers of Ahazia who had come to arrest him (2 Kings 1:10–12); elsewhere, his rolled cloak permitted him to cross the Jordan with dry feet. All of this culminated in his ascent to heaven in a chariot of fire. The same miraculous powers are illustrated in the resurrection of the son of the widow of Sarepta (Zarephath), although the magical quality there is not explicit.

These activities in the cycle of Elijah continue in the stories of Elisha. The cloak keeps its power. The successor of Elijah purifies the water of a city by throwing salt brought in a new bowl (2 Kings 2:20–21); he feeds one hundred people with twenty pieces of bread and a little cereal; he also resuscitates the son of the Shunammite. This last episode gives occasion for the narrative to reconsider: it seems that in the first instance, the magico-miraculous power resided in the rod of the prophet, but finally, only the prayer to the true God resuscitates the child (2 Kings 4:29–35). The later editors preferred to attribute this miracle to prayer alone. The powers of Elisha permitted him to counteract the effect of poison thanks to some flour, to heal Naaman the leper, to raise an axe of iron that had fallen into the Jordan by throwing in a piece of wood and causing the iron to float. When he was about to die, the ancient prophet made the king of Israel mimic an act of sympathetic magic, with real symbolic efficacy: the king shoots arrows meant to represent victory against the enemy (2 Kings 13:15–19). This sympathetic magic is inspired by the rules of similarity: imitative on the one hand, contagious on the other. The whole cycle ends with a postmortem miracle: a cadaver that inadvertently touches the bones of Elisha revives.

Therapeutic Magic

Therapeutic magic is demonstrated by the power of the heart, the liver, and the spleen of the great fish taken by Tobit from the Tigris, of which the angel said, “As for the heart and the

liver, if a demon or evil spirit gives trouble to anyone, you make a smoke from these before the man or the woman, and that person will never be troubled again" (Tobit 6:7).

The episode of the bronze serpent, in which people who look upon a bronze serpent made by Moses are cured from poisonous snakebites, has a dimension of sympathetic magic. The structure of Numbers 21:4–9 is recognizable from elsewhere in Scripture: the people murmur, God sends a plague, the people repent, Moses intercedes, God reconsiders. This systematization of motifs by a later editor hinders confirmation of the episode's historical character. We recognize with Moses the application of magical apotropaic practices to heal snakebites. By itself the practice is rather banal: all oriental societies feared snakes, and no matter which religion dominated, magic was the key to master this fear.

We have a good example of an extra-biblical ritual that establishes a procedure against snakebites. Ugarit, the little Levantine realm of the thirteenth century, has left us a rich cuneiform documentation especially of the religious practices of a West Semitic population little distant from the Canaanite contexts in which the Hebrew people emerged (see "Ugarit" in Part 5, Vol. II). Two tablets from there describe in detail the therapeutic measures as well as the magic that is necessary to apply in order to prevent and heal snakebites. The poetic language takes a circuitous route through mythological facts and through religious belief. The image is that of the "Mother of the Horses," whose foals were bitten by snakes:

The Mare, daughter of the spring, daughter of [. . .], called out to Shapshu her mother, "Shapshu, my mother! Bring a message to El [. . .]. Here is my incantation (against) the bite of the snake that is venomous [. . .]. From the snake, let the charmer remove—from it—let him cast off venom." (Levine and Tarragon, 1988, p. 490)

The long text continues with a call, perhaps by a snake charmer, to a series of divinities, each of which takes a turn to heal the poisoned bite. They fail, and Shapshu, the goddess of the sun who serves as the divine messenger, ends by calling on the twelfth divinity, the god Horon, who succeeds in controlling the venom. A kind of marriage between Horon and the Mother of

the Horses takes place to validate the result. We may note a strange mixture of genres: religion, mythology, magic, and practical prescriptions do not have well-defined boundaries and often intermingle. The gods are set in the scene along with a quasi-divine figure, the Mother of the Horses, unknown elsewhere. The human snake charmer is solicited by the gods. Finally, Horon utilizes plants to obtain the extraction of the poison. There is certainly no reason why this text should have contact with Numbers 21:6–9; however, we may notice the same dialectic between the world of man (the charmer/Moses) and that of the gods (Shapshu, Horon . . . /YHWH), where these last allow or facilitate the prevention or healing, but without intervening with a miracle. This type of therapeutic magic remains in harmony with the ambient religion; the two are not in conflict.

In a conjuration text from Ugarit that has the title "Exorcism," it is Baal who is called to help. We do not see clearly the illness concerned. The language is poetic:

You (the illness) will go out at the voice
of the officiant,
like smoke by the opening,
like a snake through the base of the wall,
like ibexes toward the summit,
like lions toward the lair.
Staff, . . . approach, O staff [. . .].
Here are the sorcerers who are speaking.
May Horon drive away the throwers of lots,
the Youth, the enchanters.

(Ras ibn Hani 78/20)

One finds here a mysterious staff, doubtless magic, like that of Moses or Elijah. The sorcerers are designated by the same word as in Hebrew. Horon comes to complete the conjuring, as in the ritual against snakebites. It is the Youth, the chthonic deity, who is intimate with the obscurities of the netherworld, such as magic.

We may recall that the bronze snake recurs in the Bible as a cult object in the temple of Jerusalem (2 Kings 18:4): "[Hezekiah] removed the high places, and broke the pillars, and cut down the Asherah. And he broke in pieces the bronze serpent that Moses had made, for until those days the people of Israel had burned incense to it; it was called Nehushtan." However, that all-too-brief allusion does not permit us to

conclude that there was a magical role for Nehushtan in the temple.

Among the repeated condemnations of magic in the Bible, one alludes to the female magician (*mēkaššēpâ*, Exodus 22:18): "You shall not permit a sorceress to live." The history of near eastern religions teaches us that in fact women could play an important role in magic, positively or negatively perceived, according to the case. The Hebrew world, nevertheless, seldom mentions them. We may recall the religious role of the prophetesses (Miriam, Huldah, Deborah), but more clearly, there is the sorceress of En-Dor in 1 Samuel 28, whose role and fate are discussed above. In the sarcasms of the prophets, we see allusions to the magical practices of certain women, "Woe to the women who sew magic bands upon all wrists, and make veils for the heads of persons of every stature, in the hunt for souls!" (Ezekiel 13:18), or in Isaiah 57:3, "But you, draw near hither, sons of the sorceress, offspring of the adulterer and the harlot." The latter is a strong text that blends the condemnation of magic with that of idolatry, associated with prostitution.

The deliberate confusion between divinatory practices and magic in the biblical condemnation is well attested. This amalgam does not facilitate the historian's research. Another confusion occurs, natural in a certain sense, between rites and magic. These two practices are complementary, and in the East, there is no magic without a modicum of ritualization.

Ordeal

Ordeal was known in Mesopotamia (see the *Code of Hammurabi* and Mari examples), but ill-attested in Phoenicia-Canaan. In the Bible, one precise case occurs: the ordeal for a woman suspected of infidelity (Numbers 5:11–31). This text is a good illustration of the blending of genres: magical, ritual, and juridical. Abundantly discussed in the later Jewish sources (Mishna and Tosefta), this narrative fosters confusion. Questions arise, such as: What was the real evidence that roused the jealousy of the husband? If the ordeal found her guilty, was her punishment permanent? What is the physiological nature of the punishment and what were its symptoms? In verse 14, the expression "If the

spirit of jealousy comes upon him [= the husband]" is not a poetic description of psychological jealousy but doubtless an attenuated echo of the belief in an intimate demon who warns the husband. The magical background is a major feature in the narrative, not an addition (or an archaic residue). A problem arose: a woman was pregnant and a husband was not sure that he was responsible for it. The punitive symptoms would be a euphemism for a miscarriage provoked magically by "the water of bitterness that brings the curse" (verse 24). The dust of the sanctuary thrown on pure water binds the litigant to the divinity, who is obliged to bring about a judgment. The whole is set in a liturgical ceremony, with specific offerings, and enhanced by the active presence of the priest, "The priest shall write these curses in a book and wash them off into the water of bitterness" (see also Ezekiel 2:8–3:3). The magic, the cult, and the ethical component work together, with purification as the pivotal notion.

Charms

The use of charms is related to magical practices. They are often an effort, naive to our eyes, to discover empirically a pharmacological solution. So it is with aphrodisiacs, certainly widespread, but so common that the ancient historiographers hardly thought to cite them. The Bible is not concerned with them. An allusion appears in Genesis 30:14–15: Reuben brings mandrakes to his mother Leah, and Rachel obtains them from her sister. Rachel conceives a son that same night. Mandrakes could have been perceived as both curative—for infertility—and aphrodisiac.

One category of harmful charms is well known in the Near East from the stories about the "evil eye." In the Bible, jealousy and envy figure prominently, with the result that we do not have any direct evidence for the evil eye as a curse hurled at an enemy. We know that in Mesopotamia, especially, such curses were much used.

A beneficent charm can appear in the form of amulets. References appear in Genesis 35:4, where it is a question of "all the foreign gods that they had, and the rings that were in their ears." These rings, because they were associated with idols, had a religious value. Perhaps among the gems snatched by Gideon from the Midi-

anite kings, there were amulets (Judges 8:21, 26), but the text does not say so specifically. Much revised in an edition that strives for irony, the recitation of the five tumors and the five rats of gold that the Philistines had to offer when returning the Ark of God is perhaps the indirect echo of a magical practice: these objects of gold, like a charm, would come to protect against the scourge that they symbolized (1 Samuel 6).

We find objects with apotropaic significance (designed to avert or turn aside evil) in tombs. Here it is a matter of conjuring and exorcising multiform evil, during a person's life as well as after death. In this matter archaeology has enriched our knowledge of actual religious customs. For the pre-exilic Israelite world, there is the striking example of two small silver scrolls discovered in 1979 in a tomb in Jerusalem, at Ketef Hinnom. These scrolls, finely engraved with ancient Hebrew writing, date from the end of the seventh century. There, we read an abbreviated version of the sacerdotal benedictions of Numbers 6:24–26, "May YHWH bless [you] and keep you" These scrolls are amulets that invoke the Tetragrammaton (the four-letter name of God, YHWH) as an apotropaic power. The tomb must belong to a priest who carried a talisman. In the same category, we may bring in the phylacteries (Hebrew *tôṭāfôt*, Aramaic *tēfillîn*) and the *mēzûzôt* (literally, "doorposts"); originally, they would have been types of amulets, respectively for the body and for the home. In the biblical tradition, these objects have been given a more orthodox signification, that of a remembrance of the Covenant with God. The custom of protecting oneself by the divine name is strongly attested in the later Hebrew, Aramaic, Mandaean, and Syriac texts. The practice continues until the epoch of Qumran and beyond.

Another example is the texts and painted designs on the walls at Kuntillet 'Ajrud, in the Negev. This little fortress, at the edge of the desert, seemed exposed to all dangers. Feeling menaced, its guardians relied upon apotropaic or magical incantations for protection. One text refers to a deity and his 'āšērâ (asherah, a cult object): "I bless you before YHWH of Samaria and his asherah." Another inscription declares, "I bless you before YHWH of Teman and his asherah. May he bless (you) and keep (you)."

These texts date from the end of the ninth to the beginning of the eighth centuries. Their prophylactic function is confirmed by the presence of three alphabetic sequences written beside one of these benedictions. We know that the alphabet was used as a magical text. The ruling principle is that the letters of the alphabet were capable of spelling out the names, hidden or manifest, of all potential divinities, angels, or even demons. Thus the faithful displeased no one. These magic alphabets were much utilized in later periods, especially in Aramaic and Syriac. From the seventh century also date the texts of Khirbet el-Qom, near Lachish (modern Tell al-Duwayr), discovered in 1967 in two tombs with inscribed walls. One of the texts borders the shape of a hand, fingers downward, in the classic position of good luck—an amulet still worn in our times. The text contains benedictions and curses. It is a conjuration on behalf of Uriyahu, the deceased, "Blessed by Uriyahu before YHWH, and from his adversaries he saved him by his asherah." As at Kuntillet 'Ajrud, incantations provided protection.

The Ark

The Ark of the Covenant plays an essential role in a series of texts. The history of this sacred object is complex because very often it was reworked by the later editors. Here we can only evoke its miraculous dimension. In Joshua 3:14–17 and 4:16–18, the Ark, carried by the priests, permits the miracle of Israel crossing the Jordan River on foot, under Joshua's orders. Afterward, during the conquest of Jericho (modern Tell es-Sultan), the priests carry the Ark around the city seven times (Joshua 6), echoing a rite of circumambulatory ritual. The text does not specify that it is the power of the Ark, as much as how the miracle was accomplished: Joshua 6 is a cultic recitation that champions the clergy, and the Ark is there presented to accentuate priestly or cultic privilege. Another indicator of the extraordinary power of the Ark is its use as a precaution during war: the story of the Philistine wars in the time of Eli of Shiloh (Khirbet Seilun) shows the Ark sent forth at the head of the armies of Israel to ensure victory (1 Samuel 4:3–11). In fact, a defeat occurs, and the exceptional nature of the Hebrew move shows that to provide vic-

tory was normally not a function of the Ark. If the Ark brought fear to the Philistines (verse 7), it is because it symbolized the presence of God. This theological view does not exclude a quasi-magical power that the Bible would have censured. Brought by the Philistines to Ashdoda, the Ark made the statue of the god Dagon (Dagan) fall in the temple where it had been installed. Then, the Ark provoked tumors in the inhabitants of the three Philistine cities where it was taken. Returned to the Hebrews, it stayed twenty years at Kiriath-jearim (modern Tell al-Azhar), from which David at last had it brought to Jerusalem. During this transport, there occurred an event that is emblematic of a world in which magic lies just beneath religion: a man named Uzzah, trying to prevent the Ark of God from falling off its cart, put his hand on it (2 Samuel 6). Good intentions notwithstanding, he died instantly, as if struck by lightning, for daring to touch the sacred object.

CONCLUSION

One must note the dynamics that link divination and magic to institutional religion in the West Semitic world. As our most informative document—the Bible—illustrates, divination and magic are well integrated into religion, having complementary relations with it. Magic is a safety valve, as psychology has long demonstrated; it permits an immediate, efficacious connection with the supernatural world. More than the Bible, which suffers from its own self-censure, the Ugaritic, Phoenician, Canaanite, and Aramaic texts give evidence of this positive aspect, enduring well into the contemporary cultures. With belief almost never absent from the hearts of men and women, divination reassured them about the future, and magic gave them control over it. The documentation becomes copious in the latest periods: at the start of our era and later, the evidence increases (e.g., amulets and inscribed bowls). It is one indication among others that magic does not mean archaism, high antiquity, or primitivism. Divination and magic dwell easily together in monotheistic faiths—Judaism, Christianity, and Islam—inheriting from

ancient Semitic cultures the capacity to help pious men and women find absolute security.

Translated from the French by Ulla Kasten

BIBLIOGRAPHY

ROLAND DE VAUX, *Ancient Israel: Its Life and Institutions*, vol. 2 (1961), is a classic account giving a general view of the religion of ancient Israel. H. A. HOFFNER, JR., “ôbh,” in vol. 1 of *Theological Dictionary of the Old Testament*, edited by G. J. BOTTERWECK and H. RINGGREN (1974), is a fine dictionary article, which has aged somewhat, expressing opinions that we have not always followed. HANS F. FUHS, *Sehen und Schauen: Die Wurzel hzh im Alten Orient und im Alten Testament*, *Forschung zur Bibel*, vol. 32 (1978), is a detailed biblical and eastern synthesis on the themes of divination and the revelation of the divinity, focusing on the prophetic literature of the Bible. PIERA A. MANTOVANI, “La magia nei testi preesilici dell’Antico Testamento,” *Henoch* 3 (1981), gives a view of the whole, although Mantovani insists on a difference between North and South Israel, in little harmony with modern criticism of the sources. EDWIN M. YAMAUCHI, “Magic in the Biblical World,” *Tyndale Bulletin* 34 (1983), is a good synthesis, accessible to nonspecialists and giving much basic information. MOSHE WEINFELD, “Divine Intervention in War in Ancient Israel and in the Ancient Near East” in *History, Historiography, and Interpretation*, edited by H. TADMOR and M. WEINFELD (1983), is a biblical and Orientalist study on the theme of miracles during war.

BARUCH A. LEVINE and JEAN-MICHEL DE TARRAGON, “‘Shapshu Cries Out in Heaven’: Dealing with Snake-Bites at Ugarit (KTU 1.100, 1.107),” *Revue Biblique* 95 (1988), presents medico-magical Ugaritic texts, translated with commentary. K. VAN DER TOORN, “Echoes of Judaeon Necromancy in Isaiah 28,7–22,” *Zeitschrift für die Alttestamentliche Wissenschaft* 100 (1988), is centered on a brief biblical passage, with a technical bibliography. JOSEF TROPPER, *Nekromantie, Totenbefragung im Alten Orient und im Alten Testament*, *Alter Orient und Altes Testament*, vol. 223 (1989), is a complete monograph on necromancy in all the ancient Near East, providing an up-to-date bibliography. On the Teraphim, see K. VAN DER TOORN, “The Nature of the Biblical Teraphim in the Light of the Cuneiform Evidence,” *Catholic Biblical Quarterly* 52 (1990). J. HOFTIJZER and G. VAN DER KOOIJ, eds., *The Balaam Text from Deir ‘Alla Re-evaluated* (1991),

Witchcraft, Magic, and Divination in Canaan and Ancient Israel

contains twenty contributions to a colloquium gathering the best specialists on the following aspects: archaeological, historical, linguistic, and paleographic. ADA YARDENI, "Remarks on the Priestly Blessing on Two Ancient Amulets from Jerusalem," *Vetus Testamentum* 41 (1991), is a lecture on these difficult amulets; the biblical interpretation is unfortunately a little

too conservative. ÉMILE PUECH, "Palestinian Funerary Inscription," in vol. 5 of *The Anchor Bible Dictionary* (1992), is a precise review of the epigraphical texts that clarify funerary customs, but also magical beliefs, apotropaic practices, and so on contemporaneous with the Bible, among the Canaanites, Hebrews, Phoenicians, and Edomites.

SEE ALSO **Theology, Priests, and Worship in Canaan and Ancient Israel** (Part 8, Vol. III); **Prophecy and Apocalypics in the Ancient Near East** (Part 8, Vol. III); and **Recovering Canaan and Ancient Israel** (Part 11, Vol. IV).

Prophecy and Apocalypics in the Ancient Near East

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PROPHECY

Reports about communication between the supernatural and natural realms are found the world over; prophecy is simply a subset within this broader category. Prophecy is associated primarily with the ancient Near East, and in particular with Israel. It refers to that consciousness and conviction held by men or women that God or the gods have selected them, for a specific occasion or a longer duration, to convey otherwise inaccessible information to an individual or group. The communication was normally initiated by the deity, but it could be induced by the recipient. It reached the prophet through a variety of means, including visions, dreams, auditions, and more mechanical media such as the divinatory techniques. The prophet (of whom there were different kinds), upon reception of the message, would repeat or rephrase it—often poetically—in order to relay it in person or in writing to the audience and setting to which the god(s) had addressed it. The inspired individual did not (or at least was not supposed to) create the content but only the verbal dress in which it was clothed. The message was directed to the immediate situation of the recipient(s) and provided inspired insight into it. The very nature of prophetic experiences made the problem of verification difficult and acute. There is evidence in several areas (Israel and Mari are examples) that attempts were made to confirm

the veracity of claims to revelation. Prophetic activity appears to have been widespread in the ancient Near East, even though only a limited corpus of prophetic texts has survived.

Mesopotamia

Mari The largest number of Mesopotamian prophetic texts were discovered in excavations at Mari (Tell Hariri) on the Euphrates. Among the thousands of tablets unearthed there, more than twenty have been identified as prophetic in character. They take the form of letters and date from the reign of Zimri-Lim (about 1776–1757 BCE). Some relate to temples and matters affecting them, but more of them—especially those that describe revelations received at Mari—deal with the king, his safety, and his military affairs. If their oracles were to be considered authentic, the prophets were required to send with the report some of their hair and mantle fringe, and the revelations had to be confirmed through divination. The accounts about dreams and other forms of communication from the gods use formulaic expressions that disclose the identity of the recipient and the place where the revelation occurred; they also introduce the divine message and then cite it. A document edited in *Archives Royales de Mari* is an instructive example:

Speak to my Lord: Thus Shibtu (Zimri-Lim's wife) your maid-servant. The palace is safe and sound.

In the temple of Annunitum (a goddess), on the third day (of the month) Shelebum went into a trance. Thus (spoke) Annunitum: "O Zimri-Lim, you will be tested by rebellion. Set up, keep posted by your side to protect you the servants and officials whom you favor. Do not go about by yourself. All those who would test you, I will hand them over to you." I have now hereby dispatched to my lord the hair and the mantle fringe of the berdache.

After William Moran, "New Evidence from Mari" (1969)

Among the prophetic letters found at Mari one also encounters divine discussions that reveal an intriguing correlation between what happens in the divine realm and on earth; in this respect one is reminded of biblical passages such as Micah's vision in 1 Kings, chapter 22. It is also worthwhile to note a letter in which there is a word play between what the prophet says and does (he eats—*akkal* and *lūkūl* are the verbal forms) and what is predicted to come (a "devouring"—*ukultum*).

Assyria Mention should also be made of a few Assyrian oracular texts that have the traits of prophecy. The goddess Ishtar of Arbela sent revelations to Esarhaddon through prophetic characters; in them the deity promises the king protection and length of days as legitimate monarch. Assurbanipal, too, received from Ishtar a message, delivered in a dream to a seer, in which she assured him of her protection.

Egypt

Two partially preserved documents represent what are often considered the only examples of Egyptian prophecy, apart from the Greco-Roman documents treated below under "Apocalypticism."

The Admonitions of Ipuwer Parts of this text are extant on a single papyrus that dates from the Nineteenth Dynasty, but some scholars maintain that it was written in the Intermediate Period between the Old and Middle Kingdoms. Although there are many gaps, the surviving portions catalog the misfortunes that have befallen Egypt and offer instructions regarding what a good ruler should do. Toward the end the speaker, the otherwise unknown Ipuwer, ad-

resses the recipient—possibly the pharaoh—who responds to him. It remains debatable whether the *Admonitions* should be classified as prophecy, since the extant parts never claim that Ipuwer's criticisms of social chaos arose from divine inspiration.

The Prophecy of Neferti The extant manuscripts of the Prophecy date to the New Kingdom, but the work itself was composed in the reign of Amenemhet (Ammenemes) I (Twelfth Dynasty) to praise the king and to celebrate his success in ending a chaotic period. In it Pharaoh Sneferu (Fourth Dynasty) requests entertaining words from Neferti, who is said to be a skilled scribe and priest. Neferti foretells calamities for the land until a king from the south named Ameny (Amenemhet) takes the two crowns of Egypt and establishes stability and joy. In the case of this text, as with the *Admonitions of Ipuwer*, the message is predictive but is not attributed to a god's prompting. Rather, Sneferu is given the choice of past or future as Neferti's subject; when he chooses the future, Neferti predicts.

Khatti

Though no prophetic text has survived in Hittite literature, the *Plague Prayers of Murshili* (Murshili II [about 1339–1306]) mentions prophets in two contexts. At one point the king sends a message to the gods: "The reason for which people are dying in the Khatti land—either let it be established by an omen, or let me see it in a dream, or let a prophet (*šuniyant*, literally, "enthusiast, god-driven one") declare it!" Later, after he had rid the land of what he thought had caused the deadly plague, Murshili requests more information from the storm-god: "If, on the other hand, people are dying for some other reason, either let me see it in a dream, or let it be found out by an oracle, or let a prophet declare it, or let all the priests find out by incubation whatever I suggest to them." The text not only lists sundry media for divine-human communication but also connects prophets with declaring a word.

Syro-Phoenicia

There is evidence for prophetic activity at several places within this cultural sphere.

The Misadventures of Wenamun This Egyptian work of fiction was probably composed in the eleventh century, shortly after the events it describes would have taken place. The High Priest of Amun, Herihor, who held office in the reign of Ramesses (Ramses) XI, has dispatched Wenamun to Byblos (modern Jubayl, biblical Gebal) in order to procure wood for the ceremonial boat of the god Amun-Re. The prince of Byblos initially rebuffs him and orders him to leave, but a god suddenly possesses a young man in the prince's court. In an ecstatic state, he prophesies to the ruler: "Bring (the) god up! Bring the envoy who is carrying him! It is Amun who sent him. It is he who made him come!" Whether the prince's concerns were allayed by the inspired utterance is not clear, although discussions between him and Wenamun continued.

The Stela of Zakkur (Zakir) of Hamath and Luath The stela bears the words of King Zakkur, who ruled in the eighth century. He relates the attack mounted against him by Barhadad of Damascus and seven (or ten) other kings and prays to Beelshamayn who "heard me. Beelshamayn [spoke] to me through seers and through *diviners*. Beelshamayn [said to me]: 'Do not fear, for I made you king, and I shall stand by you and deliver you from all [these kings who] set up a siege against you.'" "Seer" is one of the terms for "prophet" in the Hebrew Bible (Amos 7:12), and through such experts, among others, Zakkur received an oracle of deliverance that reminds one of the words Isaiah announced to King Ahaz under similar circumstances (Isaiah 7:4-9).

The Hebrew Bible The Hebrew Scripture shows that there were prophets in Phoenicia and in the other countries that bordered on Israel and Judah. The First Book of Kings reports that the Israelite monarch Ahab married Jezebel, the daughter of the Sidonian king Ethbaal. Once in Israel she continued serving Baal and Asherah (1 Kings 16:31) and supported 450 prophets of Baal and 400 prophets of Asherah whom she may have imported into Israel (18:19). The lone Yahwistic prophet Elijah, after his Lord's victory over Baal in the contest on Mount Carmel, ordered that Baal's prophets be executed (18:20-40). The Bible also indicates that prophets oper-

ated in Tyre, Sidon, and other neighboring countries. The prophet Jeremiah sent word to the kings of Edom, Moab, Ammon, Tyre, and Sidon that Israel's God had given their lands to Nebuchadnezzar (Nebuchadrezzar) of Babylon and that they should serve him (Jeremiah 27:9-10).

Israel and Judah

The largest collection of prophetic books and stories about prophets is found in the Hebrew Bible. The various writers used several terms for the men and women who conveyed the messages of God to the people: prophet or prophetess, man of God, and seer. Apart from the one case in which Abraham is called a prophet (Genesis 20:7), the text begins to apply the term to individuals from the time of Moses onward (his brother Aaron is termed a prophet [Exodus 7:1; see 4:16], and his sister Miriam a prophetess [Exodus 15:20]). Moses himself is presented as the prophet par excellence about whom the Lord says: "With him I speak face to face—clearly, not in riddles" (Numbers 12:8). In fact he becomes the model for a succession of prophets (Deuteronomy 18:18). Although Deuteronomy contrasts such clear, direct address conveying the word of the Lord with the obscure, encoded messages given to diviners (18:9-22), it is apparent that prophecy and divination overlap to a considerable extent. Both prophets and diviners could receive their messages in dreams, and some biblical texts say that prophets divine (Micah 3:11, for one) and that diviners prophesy (Ezekiel 13:1-9, for instance). Nevertheless the more frequent picture is of approved prophets receiving divine revelation through the influence of God's spirit (Isaiah 61:1). Among the many prophets whom the Bible mentions, one finds men from various backgrounds, a few women (Deborah, Huldah, and Noadiah), and groups of prophets or sons of prophets.

Most of Israel's and Judah's prophets were active during the periods of the united and divided monarchies. They checked kingly power through public criticisms of royal actions (2 Samuel 12:1-15) and, so the texts report, by anointing kings (1 Samuel 16:1-13). They are even credited with fomenting revolutions and appointing rival monarchs (2 Kings 9:1-10). They also advised kings on matters of foreign policy (Isaiah 7:1-

17). The messages that they delivered to kings, other leaders, and the general populace were frequently negative (so for almost all of Amos), but at times they struck a more positive note (Isaiah 7:4–9).

Beginning in the eighth century, there emerged a series of prophets whose names became attached to the books that contain their oracles (with some subsequent reflections on them) and narratives about them. The earliest examples are Amos and Hosea, but the series continued from the eighth century to the exile with the Judean prophets Micah, Isaiah, Jeremiah, Habakkuk, Nahum, Zephaniah, Ezekiel, and in the exilic and post-exilic periods with 2 Isaiah, Haggai, Zechariah, Jonah, Obadiah, Joel, and Malachi (which may be a title, not a name). These prophets directed their oracles not only to their compatriots but also against the nations that came into contact with Israel and Judah (for example, Ezekiel 25–32). The international dimension of prophecy is evident already in the cycles of stories about the ninth-century prophets Elijah and Elisha (see 1 Kings 19:15; 2 Kings 8:7–15). The prophetic books are largely poetic and often appear disjointed, though there are some clear cases of organization around catchwords (Amos 1:3–2:5) or topics (see Jeremiah's oracles against the nations in chapters 46–51.)

The covenantal relationship that bound Israel with its God served at times as the ideological platform from which the prophets spoke. They often introduced their oracles with the messenger formula “thus says the Lord” (eight times in Amos 1–2 alone) or similar phrases. Their pleas for repentance employed the laws of the covenant as the norm, while their threats derived from the sanctions or curses that undergirded the covenant. As they warned and promised in the name of the Lord, the prophets necessarily dealt with the future, whether they viewed it as immediate (2 Kings 7), more distant (Isaiah 7:8, 13–17), or perhaps still farther off (Jeremiah 32–33, etc.). Their predictions of national restoration and ideal conditions pictured these as emerging by grace, but only after judgment (Hosea 2, for example). Some of these prognostications mentioned a great ruler who would arise from David's family (Isaiah 9:6–7, etc.).

Prophecy is attested, then, in one form or another throughout the ancient Near East. There

are numerous instances of men and women who were conscious of a call from the divine world to communicate inspired words that focused on the present situation or the conditions that would emerge from it. In most of the same areas, related but distinguishable texts, authors, and ideas appear that are encompassed in the later phenomenon called apocalypticism.

APOCALYPTICISM

In recent scholarship it has become customary to distinguish between three terms: apocalypse, apocalyptic eschatology, and apocalypticism. “Apocalypse” serves as the name for a literary category that can be defined as a “genre of revelatory literature with a narrative framework, in which a revelation is mediated by an other-worldly being to a human recipient, disclosing a transcendent reality which is both temporal, insofar as it envisages eschatological salvation, and spatial insofar as it involves another, supernatural world” (Collins, 1979, p. 9). Apocalypses, by this definition, do not so much differ from prophecies in a formal sense as they do in the regular presence of a mediate supernatural revealer (angels in Jewish texts; they occasionally appear in prophecies such as Zechariah 1–8) and in the more distant focus of their contents—whether on final salvation (and judgment) in a thoroughly transformed or entirely new world or on the otherwise invisible beyond. The apocalypses frequently express an “apocalyptic eschatology” in which the seer, who has lost hope of reforming the present world, comes to think of the saving acts of the deity “not as the fulfillment of promises within political structures and historical events [as in prophetic eschatology], but as deliverance out of the present order into a new transformed order” (Hanson, 30). The cover term “apocalypticism” is now used to designate the ways of acting and thinking through which a group understands and justifies itself as alienated from the dominant culture whose validity it denies. Such people look forward to a new reality that presently lies unseen behind the curtain of the visible world. Only the seers to whom revelation is given can pierce that barrier.

There is insufficient sociological information about the situations in which most of the apocalyptic writers operated; hence it would not be wise to make general statements about the precise social contexts of the apocalypticists. Nevertheless a number of apocalyptic texts are known to have been written in times of persecution and despair. Moreover, texts of this kind begin to surface after the conquest of the Near East by Alexander III "the Great," and during the dominion of the Hellenistic and Roman empires. In those centuries native rule, wherever it still existed, ceased with a finality that left little hope for reversal. In that sense apocalypses constitute a form of protest literature that curses the reigning power, anticipates divine judgment upon it, and encourages the faithful to believe that a new age will soon dawn.

Egypt

Apocalypses, like prophetic texts, are found throughout the Near East. In Egypt four texts from the Greco-Roman period exhibit the traits of apocalyptic writing.

The Demotic Chronicle The one papyrus copy of this work was made in the third century BCE; the work itself was composed in the same century, between the reign of Ptolemy I Soter and that of Ptolemy IV Philopator. Though its beginning and end are lost, the surviving portions show that it includes a series of probably fictitious older oracles along with commentary on them in the form of "prophecies" after the events. It refers to the revolt of Nectanebo II (360–343) against Tachos (362–361) and adds what may be allusions to foreign rulers. The writer then predicts: "It is a man of Heracleopolis who will rule after the Ionians (the Greeks). 'Rejoice, O prophet of Harsaphes.' That means: The prophet of Harsaphes rejoices after the Ionians. For a ruler has arisen in Heracleopolis." General bliss and happiness ensue. One of the subsequent sections describes the painful experiences that Egypt is to endure under Persian dominion, the coming of the Greeks, and either Alexander the Great or Ptolemy I Soter (called "the great dog"). The pattern here is found regularly in apocalyptic texts that incorporate historical surveys: foreign conquest of the

land, termination of true worship, defeat of the foreign rulers by a native king, and restoration of proper order.

The Lamb to Bocchoris On a demotic papyrus dating from the thirty-fourth year of Caesar Augustus (7–8 CE) appears a text that calls itself *The Curses upon Egypt of the Sixth Year of King Bocchoris* (the single ruler of the Twenty-fourth Dynasty, about 719–712 BCE). Scholars date its composition to the Ptolemaic or even the early Roman period. Only the final three columns of the work are extant, with the last two alone being somewhat complete. During Bocchoris's reign a sacred lamb is supposed to have predicted miserable conditions for Egypt. (The Syrians are mentioned in this context.) The misfortunes were to include a nine-hundred-year period during which someone would attack Egypt and remove Egyptian shrines to Nineveh (Tell Kuyunjik, Nebi Yunus) and the land of Amor. Eventually the Egyptians would recover them, and great joy would then burst forth in Egypt. After uttering the prophecy, the lamb dies and is honorably buried by the king before whom the predictions were read.

The Potter's Oracle (Apology of the Potter to King Amenhotep) The copies of this oracle date from the second and third centuries CE, but the subscription to the Greek text indicates that it is a translation from the Egyptian. Four kings named Amenhotep reigned in the Eighteenth Dynasty, but the document contains much later references, such as to the city of Alexandria. It thus was written no earlier than the Hellenistic Period, probably in the second century BCE. In the badly damaged text, a potter defends himself after the pots that he had molded (an act seemingly forbidden for religious reasons) were destroyed. He predicts frightful times for Egypt at the hands of enemies, namely the "Girdle-wearers" (apparently the Greeks) and the Syrians. Nature itself will suffer: the sun will become dark and the Nile will cease to flow. Following a break, the text resumes with a description of good times when the city of the Girdle-wearers (Alexandria) will be destroyed, sacred objects taken will be returned, and Memphis will regain its former stature: "And

then Egypt shall [blossom forth] when the king who for fifty-five years rules bounteously, the giver of good things, shall appear from the Sun established by the most great goddess Isis, so that those who survive will pray that those who have died may arise to share the good things." Nature, too, will return to its customary ways. Though he became unhappy when he heard the predictions, the king buried the potter in Heliopolis (biblical On) and filed the text in his own sacred chambers.

The Apocalypse of Asclepius This material, from the first centuries CE, is part of a longer dialogue between Asclepius (god of healing and hero of mixed divine-human parentage) and Hermes Trismegistus (a Hellenistic version of the old Greek messenger god mixed with the Egyptian god Thoth). The work was composed in Greek but survives fully only in Latin and in part in Coptic and has a very close parallel in a passage in the Egyptian Papyrus Jumilhac (second century BCE). It reveals the evils that will befall Egypt (religion will end, creation will not be honored) until God reverses the deterioration and restores the world to its former state. Unlike the Apocalypse of Asclepius, Papyrus Jumilhac expresses the catastrophe as a threatened possibility, not a definite event in the future, and so it is not a truly apocalyptic text.

Persia

A lively interest in eschatological and apocalyptic topics existed in the ancient Zoroastrian tradition. Elements of Persian teachings in these areas have long been regarded as sources of central Jewish ideas such as a definite end of history (and its division into periods) and resurrection of the dead. Firm conclusions have seemed premature, however, because Zoroastrian thought has been preserved almost entirely in eighth- and ninth-century CE Pahlavi texts, in which it is difficult to disentangle more ancient material from later accretions. Nevertheless there are a few demonstrably early texts which serve as controls and show that some Zoroastrian apocalyptic doctrines existed before the common era. Only two of the Pahlavi texts are apocalypses in a formal sense: the *Zand-i Vohuman Yasn* (the *Bahman Yasht*), which offers a historical apoca-

lypse, and the *Arda Viraf Nameh*, which relates an otherworldly journey. These and a few other texts with significant apocalyptic contents should be noted.

Zand-i Vohuman Yasn (*Bahman Yasht*) This *zand* (interpretation) is supposed to be a commentary on the lost Avestan work *Vohuman Yasht* and in part may have originated in Hellenistic times (though it contains later references). Chapters 1 and 3 deal with a dream that Ahura Mazda gave to Zoroaster. In it he sees "the root of a tree, on which were four branches, one golden, one of silver, one of steel, and one was mixed up with iron." In chapter 2 he sees a tree with seven metallic branches representing periods that are to come; there is a sizable overlap between this image and that of the tree with four branches. Ahura Mazda explains to the prophet that the metallic branches represented kingdoms, the first of which is the present one: "That of gold is when I and thou converse, and King Vishtasp shall accept the religion, . . ." The last of the four kingdoms "is the evil sovereignty of the demons with dishevelled hair of the race of Wrath, . . ." This final kingdom may originally have been that of the Greeks; it is to be destroyed by Vishtasp's descendant, Pesyotan. Once the millennium of Zoroaster is completed, there will be a purification of creatures, resurrection, and the final material existence. The dream of the four branches has noteworthy similarities with Daniel, chapter 2, in which the fourth kingdom, represented by a metal, is also the Greek Empire.

The Arda Viraf Nameh The text cannot be dated securely, but it presupposes the passage of some time since Alexander's conquests. It deals with the priest Viraf's journey to heaven and hell. He is selected at a time of widespread doubt about the religion to bring confirmation from the other world that the rituals are in fact for the deity, not the demons. Viraf prepares himself for the ordeal through religious ceremonies, which include drinking wine mixed with a narcotic. Under its influence he makes his extra-terrestrial journey for seven days. Upon returning safely he reports what he has seen and thus brings the desired guarantees. Angels accompany him to explain what he sees and to

protect him, as he perceives the rewards that await the good and the evil.

Other Compositions. Several other texts that are not apocalypses, strictly speaking, should be mentioned because they contain apocalyptic material. One is the *Oracle of Hystaspes* (*Vishtasp*), the only evidence for whose existence is a series of quotations from and allusions to it in later sources, especially Lactantius's *Divine Institutions* VII. Lactantius (about 250–325 CE) says it relates an “admirable dream which contained the interpretation of a prophesying child, ‘that the Roman Empire and name would be taken from the world.’ And he foretold this much before the Trojan race was founded.” It refers to a conflict that ranged the messiah and his people against numerous kings, afflictions to come in the last days, and future destruction of the world by fire. Since a second- or first-century BCE date for the *Oracle* is likely, it documents the antiquity of these teachings within the Zoroastrian tradition.

In the *Zamasp-Namak*, the setting is an audience in which King Vishtasp asks Zamasp (to whom Zoroaster revealed the truth): “How many years will this Pure Religion endure, and afterwards what times and seasons will come?” The sage informs him that the religion will last one thousand years, at the end of which mankind will break the covenant, Iran will fall before its enemies, evil will abound, and nature itself will be corrupted. Following the rule of three kings, Pesyotan will come, the wicked will perish, and joy will return.

The *Bundahishn* is a compendium of learning, parts of which may preserve material from a lost Avestan book. It incorporates the teaching that history will last twelve thousand years. Ahura Mazda first made the creatures who were necessary for his purposes, and “they remained three thousand years in a spiritual *state*, so that they were unthinking and unmoving, with intangible bodies.” A conflict developed between Ahura Mazda and the evil spirit, during which the former proposed a compromise in which the next nine thousand years were to transpire as follows: “for three thousand years everything proceeds by the will of Auharmazd [Ahura Mazda], three thousand years *there is* an intermingling of the wills of Auharmazd and Aharman [Ahriman, the

evil spirit], and the last three thousand years the evil spirit is disabled, and they keep the adversary away from the creatures.” At the end, Ahura Mazda predicts, he will triumph, the evil spirit will be rendered impotent, the demons will be destroyed, the resurrection will take place, and creatures will exist undisturbed forever. Chapter 34 also deals with the twelve thousand years and aligns them with the signs of the zodiac. There, in the ninth millennium the true religion comes (toward its end), and in the tenth the Persian kings, Alexander, the Sasanians, and the Arabs appear.

Plutarch, in *On Isis and Osiris*, reproduces mythical details and other aspects of Persian religion. His source is Theopompus, who lived in the fourth century BCE.

Theopompus says that, according to the Magians, for three thousand years alternately the one god will dominate the other and be dominated, and that for another three thousand years they will fight and make war, until one smashes up the domain of the other. In the end Hades shall perish and men shall be happy; neither shall they need sustenance nor shall they cast a shadow, while the god who will have brought this about shall have quiet and shall rest, not for a long while [. . .] indeed for a god, but for such time as would be reasonable for a man who falls asleep. (Griffiths, *Plutarch's de Iside et Osiride*, pp. 193, 195)

Jewish Texts

Judging by the surviving evidence, the largest number of apocalyptic texts were written by Jewish authors who lived in Israel or the diaspora. Many come from later dates, but the earliest Jewish apocalypses were written in the second century BCE. Such documents may have been produced at an even earlier time, since two third-century tracts—1 Enoch, chapters 1–36 and 72–82 (neither of which is an apocalypse)—contain apocalyptic themes. The same can be said about several passages in still more ancient prophetic works (Isaiah, chapters 24–27, for example). Four second-century writings are, however, the earliest compositions that meet the criteria of form and content for an apocalypse.

The Apocalypse of Weeks (1 Enoch 93:1–10 and 91:11–17) In a vision Enoch, the seventh from Adam (Genesis 5:21–24), sees all of history

divided into ten periods called weeks. The first seven survey biblical events to the time of the author (approximately 170 BCE); the period intended is in each case easily recognizable by the scriptural event or character appearing in it. The final three weeks cover different phases of the Judgment. Following these there will be innumerable weeks forever.

The Animal Apocalypse (1 Enoch, Chapters 85–90) The same Enoch sees biblical history and its sequel enacted in a dream. Here, too, the account concludes with the final judgment on the wicked and the reward of the righteous. The righteous dead are then raised to life and a messiah appears. The new feature in this text is that humans are represented as animals and angels as humans. Allusions in the text suggest that it was written in 164 BCE or slightly later—that is, during early Maccabean times.

Daniel, Chapters 7–12 Scholars usually date this series of texts to 165 BCE, when Maccabean forces were fighting for the Jewish religion. Chapters 1–6 introduce Daniel as a diviner who, under God's guidance, can interpret symbolic dreams and decode puzzling messages. The visions of chapters 7–8 are historical apocalypses. Chapter 7 presents the four world kingdoms that will rule, the Judgment, and the fifth kingdom—that of the holy ones of the Most High. Chapter 8 deals with the conflict between Persia and Greece, the four successor kingdoms (especially the Seleucid), and the Judgment. In both chapters an angel interprets the visions. Chapter 9 differs in that Daniel does not see a vision or dream but ponders the meaning of Jeremiah's prophecy that Jerusalem would lie devastated for seventy years. The angel Gabriel explains that the seventy years refer to seventy weeks of years. Toward the end of that time, the city and temple will be destroyed, but the destroyer himself will meet his end. The final vision (chapters 10–12) provides a detailed description of the revelatory setting and a historical survey from the Persian kings through Alexander and the four Hellenistic kingdoms. Of these four realms, the kings of the south (the Ptolemies) and north (the Seleucids) receive the most attention. Antiochus IV Epiphanes (175–164) is the last and most vile to be treated. Once he has done his worst in

Israel, he will perish, there will be a resurrection of the just and wicked, and the righteous will shine like the stars forever.

Testament of Levi 2–5 Although the Greek text of the *Testaments of the Twelve Patriarchs* dates from the common era, parts of the work are older. The vision in Testament of Levi 2–5 is one of those sections. It is of special interest because it, unlike the apocalypses sketched in the three preceding sections, reports a heavenly journey. As Levi prays, he sees the heavens open and an angel invite him to enter. He eventually views seven heavens, in the highest of which God himself dwells. He also learns about human wickedness, the punishment that awaits it, the history of the priesthood that he and his male descendants will exercise, and (more immediately) that he is to destroy Shechem (Tell Balata). (See Genesis, chapter 34.)

THE RELATIONSHIP BETWEEN PROPHECY AND APOCALYPTICISM

Prophecy and apocalypticism are similar in that they are predictive, share some media of revelation, and center on disclosures of what is otherwise unknown. Prophecy, generally speaking, is the earlier phenomenon, apocalypticism the later one. Apocalypses began to appear only in the time of Greek (and Roman) rule over the Near East. There are reasons for thinking that the two are related in more than a formal sense, but for some of the cultural areas surveyed above, there is insufficient evidence to decide how they are connected. One can, however, draw some conclusions about all of the texts, although the relatively more plentiful material of Jewish apocalypticism permits greater certainty. The issues we raise are: What influenced the rise of apocalypticism, and what were its sources?

Historical Circumstances

Apocalyptic literature began to appear some time after Alexander defeated the Persians. When sovereignty passed from the Near East

to Greece, the loss would have been felt most keenly in Persia itself, since no other nation had controlled its own government in the preceding centuries. Only with the advent of the Greek Empire(s) did the four-kingdom scheme, known first from Persian and Jewish sources, come into being. The various areas and nationalities seem to have felt and responded to the Greek oppression most forcibly at different times; the Hellenistic crisis in Jerusalem from 175–165 is the most familiar example. But in Egypt as well, the coming of a native king became the hope of some early in the Hellenistic Period. (See the *Demotic Chronicle* and the *Potter's Oracle*.) Despair at present difficulties and yearning for restoration of native institutions seem to have elicited similar responses throughout the Near East. Only a more definitive intervention from above could obliterate the dark present.

Literary and Theoretical Influences

Besides the common historical circumstances that spawned apocalyptic thinking, the texts themselves share literary and thematic connections with older kinds of literature. In Egypt the *Demotic Chronicle* draws upon an old tradition of oracles, and the *Potter's Oracle* draws upon Egyptian myths of creation and resembles the *Prophecy of Neferti*. The Jewish apocalyptic texts are, however, the most convenient candidates for testing sources and influences.

The traditional answer to the question of the primary source for Jewish apocalypticism is prophecy. The similarities of these two have already been mentioned and need not be repeated. The debt of the seers to their prophetic forebears is evident from their frequent references to their words (for example, Jeremiah's seventy-year prophecy in Daniel, chapter 9). Moreover, several Jewish apocalypses name themselves prophecies and their seers prophets; Jude, chapter 14, says that Enoch prophesied, Daniel figures among the prophets in the Septuagint, and so on. Nevertheless while there are resemblances between the two, there are also obvious differences. Prophets tended to focus on an earthly, national future, while the apocalypticists looked for cosmic change. In addition, the prophets normally spoke in clearer, less symbolic language than did the seers, and their books usually identify them by their actual

names, not by the false names of ancient heroes, as often happens in the apocalypses. As the history of biblical prophecy progressed, the elements that would become prominent in the apocalypses (angels, visions, etc.) played a greater role, but marked contrasts differentiate the two literatures.

Persian apocalypticism is another source to which scholars have appealed to explain some themes in Jewish apocalypses. The Jews lived under Persian rule for two centuries; thus some influence is likely. The familiar problems with dating Persian material must be kept in mind, but several characteristic doctrines of the Jewish historical apocalypses are attested in Persian documents: periodizing of history; detailed descriptions of eschatological distress; resurrection; and the depiction of good and evil as supernatural forces.

Recently a number of writers have focused on the wisdom traditions of Israel as the background—or part of it—for Jewish apocalyptic teachings. Attention has been drawn to the central role of knowledge and the divine determination of the times that the literatures share. Apocalyptic thought could, then, be viewed as an expansion of wisdom's traditional fields into wider realms, including eschatology. Two biblical sages—Joseph and Daniel—predicted on the basis of dreams, and the latter was also a seer. A more convincing form of the wisdom thesis holds that it was not so much the biblical types of wisdom (Proverbs, Job, Ecclesiastes, etc.) that influenced the apocalyptic writers but mantic or divinatory wisdom. Indeed Daniel and Enoch, the two earliest figures of the Jewish apocalyptic traditions, are presented as diviners or assigned some mantic traits. Both received their predictive revelations through such mantic media as dreams. Daniel was skilled in dream interpretation, and Enoch was the Jewish counterpart of the Mesopotamian Enmeduranki, who was the mythical founder of a guild of diviners.

While the sources mentioned above seem to have influenced apocalypticism, another type of literature—the Akkadian Prophecies—places the issue in a wider context. Five texts are now assigned to this category, which is characterized by the presence of “predictions” of events that have already occurred. (There are also some genuine forecasts.) These prose texts describe the

reigns of kings who remain unnamed and whose times are adjudged either good or bad. What is of special interest, given the divinatory traits of apocalypticism, is that the language of the prophecies draws heavily upon the predictive statements (or apodoses) of omens. The five texts warrant individual attention.

1. *Text A* comes from seventh-century Asshur (modern Qalat Sharqat). The remains are badly preserved, but the surviving words allow one to identify the kings mentioned in it, since it specifies the number of years each one reigned. The period that is being “predicted” is the earlier or later part of the twelfth century. It is noteworthy that this text names none of the kings and that each section devoted to a king’s rule is marked off by a dividing line in the tablet and begins with the same words: “A prince will arise and rule for x years.” There appears to be no pattern of alternating good and bad reigns.

2. The *Uruk Prophecy* may date from the Seleucid period. Though there is some disagreement about which monarchs are mentioned, the text seems to conclude with Nebuchadnezzar II, who is depicted in glowing terms. If so, it must have been written in Uruk (modern Warka, biblical Erech) after he became king in 605. Of note about this text are its frequent statements that “after him a king will arise” and the concluding words, “his dynasty will be established forever. The kings of Uruk will exercise rulership like the gods.”

3. The *Dynastic Prophecy*, a Late Babylonian text, has been of special interest to students of the book of Daniel because of its sequence of rising and falling kingdoms. In column I.10 Assyria is mentioned, while Babylon appears next in I.13–II.16. The following ruler is a king of Elam (a Persian [II.17]), and the next new nationality is the Khaneans (III.9), who suffer a defeat in line 17. The final lines deal with the treatment of the tablet itself and include the suggestive words: “[a secret/taboo of] the great gods. [You may show it to the initiated but to the uninitiated you must not show (it)]” (IV.8–9). The text alludes to the fall of Assyria to Babylon, Babylon’s defeat at the hands of Cyrus, the rise of Alexander and the Greeks (the Khaneans), and perhaps to Seleucus I Nicator toward the end. Nabonidus is definitely under discussion in II.11–21. The main difficulty in this overall reading is that Darius III would be defeating Alexan-

der in III:17—just the reverse of what other ancient accounts report. The sequence of four kingdoms, the last of which is the Greek, matches the series in Daniel, chapters 2 and 7, which makes the Greeks (specifically the Seleucids) the final one of the four.

4. The *Marduk Prophetic Speech* appears to have been written during the time of Nebuchadnezzar I (1124–1103), when the cult of Marduk was achieving primacy in Mesopotamia. In it Marduk speaks in the first person to some gods and tells them about the three times his statue was removed from Babylon. He explains that on each occasion this happened in harmony with his wish. First it went to Khatti, then to Assyria, and finally to Elam. Khatti and especially Assyria profited from the statue’s presence, but during its exile in Elam, Babylon suffered. The actual prophecy enumerates the actions that the king should take to assure a time of bliss. The king is Nebuchadnezzar I, who returned the Marduk statue from Elam. Of special note in this text is its pseudepigraphic dress; the author uses neither his own name nor that of an ancient hero, and he attributes his words to a god.

5. The *Shulgi Prophetic Speech* is less clear in its structure than the Marduk text (the two belong in the same series). The contents of the work are placed in the mouth of King Shulgi, who was the second king in the Third Dynasty of Ur (2112–2004). He claims to have received a revelation from the sun-god and from Ishtar. Columns III–V supply, in the form of a prediction, an overview of Babylonian history in the second millennium, and with V.16 the actual prediction begins. The Shulgi text seems to date from the first half of the twelfth century. (For more on Shulgi, see the chapter on him in Part 5, Vol. II.)

From the beginning of research into the Akkadian Prophecies, scholars have remarked upon resemblances between them and some Jewish apocalypses. Indeed one was so impressed by the force of the parallels that he proposed renaming the Akkadian Prophecies as the “Akkadian Apocalypses.” In this connection the following points should be noted:

1. The Akkadian Prophecies do not resemble all the varied kinds of Jewish apocalypses but are more akin to the historical surveys. There

do not appear to be very noticeable similarities with the apocalypses that provide heavenly travelogues. This means that texts such as Daniel, chapters 7–12, and 1 Enoch, chapters 83–90, 91, and 93 more nearly resemble the Akkadian Prophecies than apocalypses such as Testament of Levi 2–5. Among the historical apocalypses, the sequence of four rising and falling kingdoms in Daniel, chapters 2 and 7, is remarkably close to the pattern in the *Dynastic Prophecy*, in which the fourth also includes and is perhaps critical of the Seleucid Empire.

2. The prophecies and historical apocalypses make extensive use of “predictions” after the fact and in some cases of actual foretelling. The predictions of the past are the feature of the prophecies which has played an especially prominent role in comparative discussions. Each of the prophecies lays before the reader a series of somewhat recognizable historical events, but rather than employing the expected past-tense verbs, the author resorts to future-tense forms. While the contents of these predictions are conditioned by the histories of the people involved—biblical or Mesopotamian history—both types offer “predictions” of the past. Perhaps the writers felt that if they could show they had correctly predicted events up to the time of the reader, the reader would believe the actual predictions that followed. The Shulgi text has a genuine prophecy beginning at V.16, and perhaps others did as well. This trait does resemble the Jewish historical apocalypses, all of which attempt genuine forecasts (see Daniel 11:40–46).

3. The predictions come to the prophet or seer by revelation. This is always the case in the Jewish apocalypses, in which dreams and visions figure prominently. Among the Akkadian Prophecies revelation is also attested; the Marduk text is a special case because it is the word of the god himself, but Shulgi also reports his conversation with the gods. However, since the beginnings and ends of the cuneiform texts are lost in most cases, one can say little about the others.

4. The predicted events are told in cryptic language. In the apocalypses Daniel uses metals and animals to represent kingdoms, and Enoch symbolizes people as animals and angels as humans. Kingdoms are not named (except in the interpretations), nor are people; one must infer their identity from other data or from the interpretation which may be attached. The Akkad-

ian Prophecies in some cases share this sort of secrecy. *Text A* mentions nations or lands but not the names of rulers; the same is true of the *Dynastic Prophecy*, the Uruk text, and the Marduk-Shulgi series. In this connection it is worth noting that the *Dynastic Prophecy* includes a command to keep the revelation a secret for the initiated; Daniel (12:4, 9–10) and other Jewish apocalypses have similar instructions affixed to them.

5. The texts are often pseudonymous. The Enoch texts are an obvious case in point, and the Daniel texts are as well, in the sense that the recipient of the revelations claims to be a person who lived during the exile. In most of the Akkadian Prophecies, the identities of the characters making predictions are not known, but at least in the cases of the Marduk and Shulgi texts, their pseudepigraphic nature is indisputable.

6. The apocalypses and the prophecies have divinatory associations. The Danielic and Enochic traditions are mantic in the sense that the heroes interpret and receive symbolic dreams and are associated with other divinatory activity. As for the Akkadian Prophecies, there is a relation with omen literature, even though its nature is not entirely clear. All of the editors of the texts have noted that the language of the prophecies is closely modeled on that of omen apodoses (i.e., the “then” clause of an if-then statement). Moreover *Text B*, which was at one time considered a prophecy and does resemble the genre to a considerable degree, is especially indebted to mantic language. There may indeed have been a literary connection of some kind between the two genres. It is hardly surprising that there are resemblances in language between them, since both are types of predictive texts.

Having enumerated similarities, we note that most scholars who have compared the prophecies and the apocalypses have seized upon the lack of eschatology in the former as a distinguishing trait and one that justifies retaining the name prophecies (or, rather, rejecting the category apocalypse) for the Akkadian texts. In fact it has been denied that there is eschatology in any Akkadian text, in contrast to the Jewish apocalypses, where concern with the last days is central. Yet the *Uruk Prophecy* predicts that a king's dynasty will be established forever and that the

kings involved will rule like the gods—that is, endlessly. What one does not find in the prophecies, however, is a worldwide divine judgment that distinguishes the good from the evil.

Overall the similarities in form and purpose between the Akkadian Prophecies and the Jewish historical apocalypses, especially those in Daniel, are greater than the differences. They provide evidence that texts like these, or the traditions that lie behind them, may well have influenced the developing Jewish apocalyptic tradition, which, through Daniel and Enoch, has strong associations with Mesopotamia. These documents also show that in assessing lines of influence, prophecy and mantic wisdom should not be distinguished very rigidly from one another.

BIBLIOGRAPHY

Sources

HAROLD W. BAILEY, "To the Zamasp-Namak," *Bulletin of the School of Oriental Studies* (1930–1932); RYKLE BORGER, "Gott Marduk und Gott-König Šulgi als Propheten: Zwei prophetische Texte," *Bibliotheca Orientalis* 28, no. 1/2 (1971); JEAN-MARIE DURAND, *Archives Epistolaires de Mari I/1*, Archives Royales de Mari, vol. 26 (1988); A. KIRK GRAYSON and WILFRED G. LAMBERT, "Akkadian Prophecies," *Journal of Cuneiform Studies* 18, no. 1 (1964); A. KIRK GRAYSON, *Babylonian Historical-Literary Texts* (1975); JOHN G. GRIFFITHS, *Plutarch's de Iside et Osiride* (1970); HERMANN HUNGER AND STEPHEN A. KAUFMAN, "A New Akkadian Prophecy Text," *Journal of the American Oriental Society* 95 (1975); LUDWIG KOENEN, "Die Prophezeiungen des 'Töpfers'," *Zeitschrift für Papyrologie und Epigraphik* 2 (1968); LACTANTIUS, "The Divine Institutes, Books I–VII," in *The Fathers of the Church*, edited by J. DEFERRARI (1964); MIRIAM LICHTHEIM, *Ancient Egyptian Literature*, 3 vols. (1973–1978); CHESTER C. MCCOWN, "Hebrew and Egyptian Apocalyptic Literature," *Harvard Theological Review* 18 (1925); BRUCE M. METZGER, ed., *The New Revised Standard Version of the Bible* (1989); WILLIAM L. MORAN, "New Evidence from Mari on the History of Prophecy," *Biblica* 50, no. 1 (1969); JAMES B. PRITCHARD, ed., *Ancient Near Eastern Texts Relating to the Old Testament* (1950; 3rd ed. with supplement, 1969); EDWARD W. WEST,

"Pahlavi Texts," part 1, *The Bundahishn, Bahman Yasht, and Shayast la-Shayast* (1880).

Studies

HAROLD W. ATTRIDGE, "Greek and Latin Apocalypses," in *Apocalypse: The Morphology of a Genre*, edited by JOHN J. COLLINS (1979); ROBERT D. BIGGS, "More Babylonian 'Prophecies,'" *Iraq* 29 (1967), and "The Babylonian Prophecies and the Astrological Traditions of Mesopotamia," *Journal of Cuneiform Studies* 37, no. 1 (1985); MARY BOYCE AND FRANTZ GRENET, *A History of Zoroastrianism*, vol. 3, *Zoroastrianism Under Macedonian and Roman Rule* (1991); JOHN J. COLLINS, "Jewish Apocalyptic Against its Hellenistic Near Eastern Environment," *Bulletin of the American Schools of Oriental Research* 220 (1975), "Introduction: Towards the Morphology of a Genre" and "Persian Apocalypses," in *Apocalypse: The Morphology of a Genre*, edited by JOHN J. COLLINS (1979), and *The Apocalyptic Imagination: An Introduction to the Jewish Matrix of Christianity* (1984); PHILIPPE DERCHAIN, "L'Auteur du papyrus Jumilhac IV. Les allusions apocalyptiques," *Revue d'Égyptologie* 41 (1990); MARIA DEJONG ELLIS, "Observations on Mesopotamian Oracles and Prophetic Texts: Literary and Historiographic Considerations," *Journal of Cuneiform Studies* 41 (1989); GARTH FOWDEN, *The Egyptian Hermes* (1986); WILLIAM W. HALLO, "Akkadian Apocalypses," *Israel Exploration Journal* 16, no. 4 (1966); PAUL D. HANSON, "Apocalypticism," in *The Interpreter's Dictionary of the Bible, Supplementary Volume* (1976); GERHARD F. HASEL, "The Four World Empires of Daniel 2 Against Its Near Eastern Environment," *Journal for the Study of the Old Testament* 12 (1979); DAVID HELLHOLM, ed., *Apocalypticism in the Mediterranean World and the Near East* (1983; 2nd ed. 1989); JANET H. JOHNSON, "The Demotic Chronicle as an Historical Source," *Enchoria* 4 (1974); STEPHEN A. KAUFMAN, "Prediction, Prophecy, and Apocalypse in the Light of New Akkadian Texts," in *Proceedings of the Sixth World Congress of Jewish Studies*, edited by AVIGDOR SHINAN, vol. 1 (1977); LUDWIG KOENEN, "Manichaean Apocalypticism at the Crossroads of Iranian, Egyptian, Jewish, and Christian Thought," in *Codex Manichaicus Coloniensis*, edited by LUIGI CIRILLO (1980); WILFRED G. LAMBERT, *The Background of Jewish Apocalyptic* (1978); ALLAN B. LLOYD, "Nationalist Propaganda in Ptolemaic Egypt," *Historia* 31 (1982); JACK M. SASSON, "An Apocalyptic Vision from Mari?: Speculations on ARM X:9," *MARI* 1 (1982); JAMES C. VANDERKAM, *Enoch and the Growth of an Apocalyptic Tradition* (1984).

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